TRANSFORMING LEARNING CULTURES VIA PARENT TEACHER PARTNERSHIPS

by

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ABSTRACT

Student teacher relationships, instructional practice, socio-economic status, and parental involvement are identified as underlying causes of the multidimensional construct of behavioral, emotional, and cognitive engagement. The literature review explores student engagement through a theoretical framework, a statement of the problem, purpose of the study, and review of the literature. A needs assessment identified the behavioral, emotional, and cognitive engagement levels of grade four, five and six students from three Southern Alberta schools to be below desirable levels. Correlations between low levels of student engagement and parent involvement were also identified. Literature that addresses how schools can better establish parent and external partnerships in order to improve student engagement was reviewed. An intervention related to increasing parent involvement through the use of Parent Teacher Academic Teams (PTAT) was implemented. Findings suggested when PTAT was implemented student perception of parent involvement in schools increased.

Keywords: student engagement, school engagement, cognitive engagement, emotional engagement, behavioral engagement, student motivation, school community partnerships, parent involvement

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CHAPTER 1

STUDENT ENGAGEMENT

Student engagement can be a key factor in learner persistence through challenging tasks, achieving academic milestones, and attaining professional success. Therefore, addressing low levels of engagement is critical as schools strive to prepare 21st century students to be college or career ready. The consequences of disengaged students can include a failure to persist in scholarly work, spending less time on task than their peers, behavioural challenges and poor grades, all of which may limit future academic opportunities (Fredricks, Blumenfeld & Paris, 2004). Other possible outcomes of low levels of student engagement in school include behavior challenges and delinquent behavior (Carter, McGee, Taylor & Williams, 2007), highlighting the importance of early interventions designed to increase engagement in school. Student engagement in learning endeavors has been linked to higher levels of student success and lower school dropout rates (Blondal & Adalbjarnardottir, 2014; Teachman, 2007). This chapter includes a sociocultural theoretical framework useful to view behavioral, emotional, and cognitive engagement through the lens of school as a socially constructed environment. Next is a description of the problem, followed by the purpose of the study. Finally, a review of the existing literature related to engagement as a construct and the contributing factors.

Theoretical Framework

This study is based upon the social cognitive approach in which peoples understanding of themselves are contextualized and socially constructed (Bandura, 1986). An individual's social connections and group involvement can shape behavioral development, influencing actions and

outcomes (Tappan, 1998). An individuals Engagement and achievement are created as part of a social construct and are evident in collaborative and individual action (Morcom, 2014).

The implications for student engagement include the impact of peer and adult collaboration on children's mental functioning and school performance. Relationships and emotions play an important role in the affective dimensions of learning (Morcom, 2014).

Opportunity to learn (OTL) was conceptualized as a way to consider the conditions in schools and classrooms affecting student learning (Anderson, 1990). Gee (2008) expands upon this definition by showing that input does not mean intake for all learners and schools must work to ensure transference occurs by addressing the cognitive, behavioral, or emotional reasons that may be reducing OTL. Teaching a concept does not mean it has been learned. Background knowledge and exposure to experiences and content is not enough to ensure that students encounter equality in OTL; rather equality is actualized in similar capacities for action (Gee, 2008).

Scaffolding was conceptualized by Bruner (1986) as the temporary supports and structures provided by teachers to assist students in developing their own understanding, thoughts, and ideas. As the level of student competence increases, supports are removed. Brophy (2008, 2010) developed the concept of scaffolding further by asserting that when teachers scaffold an appreciation of learning, students find value in academic endeavors that were not previously recognized. Appreciation of learning is central to student engagement (Brophy, 2008, 2010). Teachers can cognitively engage students in curricular objectives through scaffolding by framing curricula around important ideas, providing authentic tasks, crafting relevant learning experiences and connecting learning to student identity (Brophy, 2010).

High challenge tasks can be scaffolded and personalized to suit the learning needs of all students in a class. High challenge tasks can be used as a way to differentiate for diverse learners and keep students engaged (Perry, Turner & Meyer, 2006). Developing an appreciation and connection to academic content is fundamental to student engagement (Faircloth & Miller, 2011).

Statement of the Problem

Engagement has been shown to decline as students move through elementary school (Marks, 2000) and teacher and administrative observations, informal conversations with students, attendance records, and achievement data (The Fraser Report, 2014) support these findings. Behavioural engagement, as reported by teachers and students, demonstrates consistent associations with achievement reports across a variety of samples (Fredricks et al., 2004). Examining student engagement as a problem of practice evolved from a perceived lack of engagement shown by students in upper elementary school who are living in low socioeconomic environments, which correlate with low levels of student engagement in elementary students (Finn, 1989; Lee & Smith, 1993). Addressing student engagement is a problem for those working in education interested in increasing academic achievement and future prospects, as well as minimizing the impact of negative developmental outcomes.

Purpose

The purpose of this study was to examine the conditions that contribute to behavioral, emotional, and cognitive engagement and to study the relationships between those conditions as well as the factors that contribute to student engagement levels. The following literature review collates research contributions to understanding the connections between student teacher

relationships, instructional practice, socio-economic status, and parent involvement to student engagement levels.

Engagement Literature Review

Engagement is challenging to define in terms of how it can be measured within schools, however, teachers and students know it when they see it and know when it is not present. (Newman, 1986). A pervasive concern was noted throughout the literature arguing for the need for an established and cohesive understanding of the construct of engagement in order to communicate with clarity what student engagement means (Parsons & Talyor, 2011; Appleton et al., 2008; Harris, 2008; Fredericks et al., 2004).

A review of the literature revealed an evolution in scholarly writing about the concept of student engagement. Many of the studies in the 1980's and 1990's focused on measurable achievement indicators such as time on task and graduation rates, as well as positive behaviors (Parsons & Taylor, 2011; Harris, 2008). Parsons and Taylor (2011) noted that engagement literature moved from focusing on achievement indicators and behavior management to including the utilization of engagement as a strategy to improve a student's ability to learn. Studies that examined one form of engagement, such as behavior, were critiqued in part for failing to account for students appearing to participate but failing to learn (Linnenbrink & Pintrich, 2003).

Similarly, research on emotional engagement was criticized because a positive view of school did not necessarily translate into improved learning (Skinner & Belmont, 1993). As a result, researchers in the early 2000's began to call for a multi-dimensional and comprehensive view of the construct of engagement (Anderson et al., 2004; Fredericks et al., 2004).

Student engagement was defined by Fredricks, Blumenfeld and Paris' (2004) as a multi-dimensional construct. Their definition, which was used throughout this paper, includes three domains. First, behavioral engagement refers to participation and involvement in academic and social activities. The second domain, emotional engagement, focuses on reactions to school, peers, teachers and academics. Finally, the third domain refers to cognitive engagement, concerning the student's investment in learning endeavors. Hence, engaged students, achieve, participate, develop positive affective relationships within school, assist in classroom management, and become skilled learners.

Student-Teacher Relationships

For many children, the most important adult relationship they experience in school is with their teacher. It is thought that positive affect between students and their teacher's leads to desirable outcomes. Indeed, the associations between student-teacher relationships and student engagement levels, is repeated in the literature in both student and teacher self-reports (Anderson et al., 2004; Patrick, Ryan & Kaplan, 2007; Skinner & Belmont, 1993).

In a seminal work, Skinner and Belmont (1993) found significant effects for a reciprocal relationship between teachers' behavior and students' engagement in the classroom including: teacher behavior influences students' perceptions of their interactions with teachers, teacher behavior influences student engagement, and student engagement influences teacher behavior. They observed reciprocal effects of three dimensions of teacher behavior including involvement, structure, and autonomy support on the behavioral and emotional engagement of 144 grade three through five elementary students (Skinner & Belmont, 1993). The results from observing classrooms over the course of one school year suggest that highly engaged students receive teacher responses that further facilitate engagement, and disengaged students receive responses

that serve to undermine engagement. Thus, students who require the most affective support from their teachers receive the least.

Student-teacher relationships impact on student engagement in school was examined by Archambault, Pagani and Fitzpatrick (2013). Structural equation modeling was used to identify associations between classroom engagement and student-teacher relations. Data were collected from 1145 grade one and grade four students over five years using a teacher reported rating scale. Results indicated that student engagement and student teacher relations significantly co-vary and demonstrate considerable stability over time. This finding suggests that when students are perceived by their teachers as engaged, they are also experiencing more positive affective relations. Skinner and Belmont's (1993), as well as Archambault et al. (2013), studies found that affective teacher-student relationships significantly positively correlate with student behavioral and emotional engagement.

The quality of relationships between students and teachers, and whether those relationships could be improved through targeted intervention, were examined by Anderson et al, (2004). The study looked at whether an intervention model that teaches mutual relationship building between students and teachers, problem solving skills, and persistence would result in increased student engagement. Finn's (1989) model of student engagement was used, and thus attendance, behavioral referrals, and academic progress were monitored, and followed by an early response if students were determined to be exhibiting signs of disengagement. Targeted relationship building between students, family, and teachers as well as persistence, continuity, and consistency with students and families were the implemented response. Regression analyses were conducted to determine the contribution of the intervention to student attendance as well as teacher rated student academic engagement, which the researchers defined as work completion

and accuracy, class preparation, eagerness to learn, and persistence. Results further confirmed that higher quality student-teacher relationships were associated with student engagement and that positive student-teacher relationships can be deliberately cultivated. This is an important finding given Archambault et al. (2013) concluded that student engagement and student-teacher relationships demonstrate stability over time.

Understanding that positive student-teacher relationships are linked to engagement, demonstrate stability, and can be cultivated, suggests an optimal, or threshold level, at which student success is most likely. Klem and Connell (2004) used a threshold analysis to determine where students fall in relation to the standard, on engagement and teacher support, and measured the contribution of achieving the threshold to the likelihood of school success. Longitudinal data were collected from 1846 elementary and 2430 secondary students. Like previous studies, these results indicated that teacher support, as perceived by both the student and teacher, is correlated with students who report engagement in school. However, the associations are described in optimal and risk levels of support. Students below the risk level for perceived student teacher relationships were twice as likely to be disengaged at the elementary level and 68% at the middle school level. Conversely, middle school students were three times as likely and elementary students were 89% more likely to report high levels of engagement if they were above the optimal level for perceived student-teacher relationships. If students experience a gain in supportive relationships to the threshold level they are likely to become more engaged in school.

Individual identity can develop within the social context of school in relation to social categories and processes impacting student-teacher relationships. Whereas Skinner and Belmont (1993), Archambault et. al (2013) Anderson et al. (2004), and Klem and Connell (2004), focused on student teacher relationships in isolation, Wartham's (2004), anthropological study examined

the social identification process of one ninth grade student who over the course of a school year, moved from being identified as a good student to a social outcast. The study took place over two years with 100 hours of audio taped observations. The participant of the study was a ninth grade girl, who at the beginning of the study was engaged, as demonstrated by voicing her opinions during class discussions, and academic success. The style of teaching that was used in her class recognized students offering their own opinions as positive, and consequently, both teachers and peers regarded her as a good student. As the other students in the class developed more skills in offering opinions, the participant's behavior did not change; however, the teachers and then the student's reactions to her comments evolved. A shift occurred from being perceived as a good student to one who aggressively pushes her opinions, disrupts the class, and is off topic. Examining social identification in a school setting and the trajectories of individuals adds a depth of understanding to student-teacher relationships and how they evolve over time. The impact of relationships on engagement (Anderson et al., 2004), as well as the affective beliefs of students (Skinner, Wellborn & Connell, 1994), has previously been explored in engagement research whereas this ethnography contributes by investigating how those relationships are socially constructed, providing qualitative data to assist in replicating learning cultures that facilitate engagement. Strong associations between the classroom social environment and student engagement support the premise that adaptive social classroom environments enhance student efficacy and mastery, which positively impacts engagement (Patrick, Ryan, & Kaplan, 2007). These findings indicate the need to consider student-teacher relationships within the larger context of the classroom and school.

Instructional Practice

Conditions in schools that contribute to students who are emotionally, behaviorally, and cognitively engaged include high standards for academic learning and conduct, meaningful curriculum, teacher professional learning communities, and personalized learning environments (Klem & Connell, 2004). The research indicates that instructional practices such as providing complex tasks, connections between subject matter and students, and scaffolding, influences student engagement, which acts as a mediator for student achievement (Guthrie & Wigfield, 2000).

Scaffolds for engagement include supports of cognitive and motivational processes teachers put in place as students complete instructional activities (Lutz, Guthrie & Davis, 2006). Scaffolding for engagement in reading instruction resulted in students showing growth in comprehension and sustained engagement in complex literacy tasks (Lutz et al., 2006). Elements of sustained engagement included knowledge goals for tasks, availability of multiple texts well matched to content goals, strategy instruction, choices of texts for reading, and collaborative support.

Lutz et al. (2006) used a multidimensional coding scheme to measure grade four student engagement during two integrated science and reading instruction classes and one traditional instruction reading class over the course of twelve weeks. Level of engagement was rated at 30-second time intervals using a student multidimensional engagement rubric to determine the variation in engagement during instruction and the way that teachers scaffold for engagement in relation to reading comprehension through the measure of comprehension tests and, usage of comprehension strategy across classes. The findings suggest that classes with high reading comprehension have student engagement in learning and high complexity literacy tasks.

Teacher practices influence the cognitive antecedents of academic engagement and academic efficacy (Tyler & Boelter, 2008). Cooper (2014), conducted a survey and five embedded case studies to analyze the differences in levels of student engagement and its relationship to instructional techniques. Three engaging teaching practices are identified through a factor analysis of surveys from 1132 grade nine students. The teaching practices include, connective instruction, academic rigor, and lively teaching with the first being the strongest predictor of student engagement (Cooper, 2014). Connective instruction is a practice in which teachers assist students in making personal connections to academic material. Academic rigor refers to the practice of encouraging high levels of cognition. Lively teaching emphasizes instructional delivery using games, project-based learning, and collaborative work.

As expected, the results demonstrated that all of the identified teaching practices were significantly correlated with student engagement and with each other. Using a multilevel regression model the researchers controlled for grade, gender, subject, and peer belonging (Cooper, 2014). Further, the control variables of race, parent education, academic level, and class were not significant when accounting for teaching practices. This finding aligns with a study from Marks (2000), which found that personal background accounted for little of the variance in engagement amongst students.

Marks (2000) examined whether student background and orientation towards school, challenging student work, and supportive school environments, impacted engagement across grade subject. Data were collected from 143 classrooms from 3660 students in grades five, eight, and ten in mathematics and social studies classes. Authentic work, which includes, intellectual quality, higher order thinking, depth of knowledge, substantive conversation, and personal connections to the learning tasks, contributes strongly to the engagement of students across grade

levels. The analysis of the results shows the association between instructional practice and student engagement and implies that increasing authentic work is likely to increase student engagement.

The rate at which students acquire academic dispositions and skills varies, and teachers may adjust instructional practices to elicit different responses in order for students to learn more effectively. Marchand, and Furrer (2014) examined the relationships between formative measures of reading, student engagement, and summative performance on a high-stakes reading assessment for 563 grades three through five students in six high–risk neighborhood schools in a large southwestern school district. Engagement was measured using teacher and student reports. Reading competence and performance was measured using standardized tests resulting in a fluency, comprehension, and overall performance score in a pre and posttest. Findings indicated that the correlation with teacher reported engagement and reading competence and performance was stronger than with student reported engagement; however, both engagement reports individually predicted reading performance above level of competence. Students in the study who had high levels of engagement and low levels of reading competence at the beginning of the year made significantly greater gains in reading performance than peers who had low levels of engagement and low levels of reading competence (Marchand & Furrrer, 2014). This is an important finding because this study documents the relationship between student engagement, targeted instructional supports, and academic gains.

In classrooms with highly engaged students, teachers provide and monitor challenging tasks that are developmentally appropriate and avoid undermining behaviors (Dolezal, Welsh, Pressley, Vincent, 2003). Teachers were observed in their classrooms and classified as low, moderately, and highly engaging over the course of one school year. The students included a

range of socio-economic statuses from poverty to middle class. In highly engaged classrooms, a minimum of 80% of the students exhibited on task behavior 80% or more of the time. In highly engaging classrooms students appeared to think deeply, and make connections, more frequently than in classrooms determined to have low, or moderate levels of engagement. In the classrooms with low engagement, task demand, and on task behavior were low. In the moderate group more on-task time for students took place, however there was low task demand. Judgments made by the observers regarding the category students fell into were based on their emotional expressions. The teachers that had highly engaged learners utilized scaffolding, held students accountable, used cooperative learning, made cross-curricular connections, offered choice, developed autonomy, and encouraged appropriate risk taking.

Socioeconomic Status

Calarco (2011) provided insight into the dynamics between poverty, parents, and student engagement, as well as how the institution of school facilitates or inhibits student engagement across socioeconomic status. She found that middle class students called out, approached teachers, assertively sought clarification, requested assistance more frequently and were more proactive than their working class peers. Additionally, teachers were more responsive to proactive requests for help, and as a result middle class students received more individualized attention from their teachers and spent less time waiting, putting them in a better position to complete their work.

Consideration of the divide between economic classes needs to be critically considered when designing strategies to increase student engagement that are targeted toward low income students. The background and the context in which a student lives impacts engagement levels within the middle class institution of school (Klem & Connell, 2004) and consequently, students

living in poverty disproportionately experience low levels of engagement in school (Dunleavy & Milton, 2009).

Blitz, Kida, Gresham and Bronstein (2013) examined the experiences of parents living in rural communities who are living in poverty, and the corresponding effects on school engagement. The parents in the study described difficult relationships with teachers and administrators, most of who do not live in their community. Communication with the school was identified as a significant concern of parents. They reported that from their perspective school personnel were not empathetic to their struggles with poverty. Communication between low socioeconomic families and school is a problem echoed by Jones (2007) in her ethnographic study. She examined four cases with regards to the psychosocial tensions facing female students in the mother, daughter, and teacher relationship. The researched construct is the potential threat of middle class female teachers to the mother-daughter relationship in lower socioeconomic communities. The findings indicated that the transmission of culture received by children in the home and community can be in contrast to experiences in school, which impacts a student's ability to use background knowledge and experiences to their advantage. Cooper (2014) and Marks (2000) demonstrated the correlations between personalized connections to school material and student engagement. Blitz et al., (2013) and Jones (2007) demonstrate the disadvantages low socioeconomic students have in making those personalized connections to their learning.

Parent Involvement

The majority of school performance can be explained by out of school factors. Students arrive at school with significant variations in skills and assets deemed desirable to the education system. Economist Goldhaber (2002) found that approximately 60% of the variance in student test scores is attributed to family characteristics. Involvement, high expectations, and

encouragement from parents are significant predictors of academic achievement (Epstein, 2001). Further, the level of parental involvement practices initiated by teachers and schools varies (Garcia, 2004) and providing a supportive framework establishes actionable measures can increase family engagement in school (Epstein, 2011).

Estell and Perdue (2013) examined the associations between affective and behavioral engagement and social support from teachers, peers, and parents. The study used data from the National Institute of Child Health and Human Development Study of Early Child Care and Youth Development to examine the relative association between social supports from parents, teachers, and peers in fifth grade and school engagement in the sixth grade. Data were gathered from five sources including grade five and six teachers, classroom observations, maternal reports, and student surveys. Behavioral and cognitive indicators of student engagement positively correlated with parental, teacher, and peer social support; however, parents related most strongly to behavioral engagement.

A qualitative study that examined parent narratives about their involvement in their children's schools, and the connection between home and the school environment, identified five areas as being important for engagement including: child, school, teacher, parent, and family (McKenna & Millen, 2013). Parents revealed that they do wish to be involved in their children's education and that when given an opportunity to share their thinking they have a lot to contribute. Parental insight may include a deep understanding of school, their child, teachers and family, their child's potential, their child's behaviors, their child's needs, and areas of concern for their child in an academic setting. Parents began communication from defensive positions, and indicated a belief teachers viewed them negatively, however, as relationships were cultivated between parents and teachers, interactions became collaborative.

Needs Assessment Research Questions

Research questions applied in this study draw on Fredricks et al., (2004) theoretical framework discussed earlier in the paper in order to investigate student engagement among low socioeconomic upper elementary students. Specifically, the literature review takes the concept of behavioral, cognitive, and emotional engagement as a multidimensional construct so as to better understand the complex process of learning in school and the interplay between domains. The causes of low levels of student engagement identified in the research include, student-teacher relationships, instructional practice, socioeconomic status, and parent involvement.

RQ1. What are the associations between student perception of student-teacher relationships, student engagement, and parent involvement in low socioeconomic students?

RQ2. What are the associations between student perception of learning at school, student engagement, and parent involvement in low socioeconomic students?

RQ3. To what degree does parent involvement influence student engagement in low socioeconomic students?

Limitations

Limitations of the literature include the challenge of measuring engagement as it changes throughout the course of the day, and over time. Current methods provide student or teacher perceptions of engagement in a singular measure, in some cases over a longitudinal study, which fails to capture the fluid nature of engagement. Additionally, researchers have struggled to move away from studying student engagement as a meta-construct. Researchers have begun to focus on measuring forms of engagement and correlations with the individual constructs behavioural, emotional, and cognitive engagement.

Conclusion

Themes emerged when reviewing engagement literature that will assist in framing areas for further research such as the dynamic between the types of engagement and the way student engagement evolves over time. The contributing factors to student engagement levels examined included: student teacher relationships, instructional practice, socioeconomic status, and parent engagement.

CHAPTER 2

NEEDS ASSESSMENT

The needs assessment applied the concept of behavioral, cognitive and emotional engagement as a multidimensional construct so as to better understand the complex process of learning in school, and the interplay between domains. The underlying factors that contribute to levels of student engagement identified in the review of the literature include; student teacher relationships, student learning and instructional practice, socio-economic status and parent involvement.

The following needs assessment adds to the body of research to better understand the connections between underlying factors, the conditions that contribute to behavioral, emotional and cognitive engagement, as well as the degree to which they contribute to student engagement levels. The investigation provided information to assist in addressing the needs of students who are presenting low levels of student engagement by indicating correlations and possible intervention pathways.

Methodology

Context and study respondents

The three participating schools and district are referred to using pseudonyms to protect the privacy of respondents. The three Sunnyview School District elementary schools in the study serve early learning through to grade six students. The schools are located in southern Alberta, Canada in a city with a population of 60 000 people. Coulee Flat School has approximately 180 students, Hill School has approximately 260 students, and New Point School has approximately 200 students. The public schools draw from neighbourhoods serving the city's lowest income population. Coulee Flat School, Hill School, and New Point School are all within the lowest

average annual family income quartile within the province of Alberta (The Fraser Institute, 2014). From 2012 to 2015 the schools have been working on the district goal of cooperative learning, which was intended to increase student engagement, however, engagement was not measured and the perceived problem has continued to persist (Weeks, 2015).

The needs assessment study was undertaken to examine levels of behavioral, emotional and cognitive engagement and the degree to which underlying conditions contribute to student engagement levels. Engagement was measured using the Motivation and Engagement Scale (MES) developed by Martin (2012) which contained 44 items using a Likert scale of 1 (Strongly disagree) to 5 (Strongly agree). Parent involvement was measured using five subscales written by Sheldon and Epstein (2007) containing 19 items and were rated using a Likert scale of 1 (Strongly disagree) to 4 (Strongly agree). Additionally, in-depth interviews were conducted with nine teachers. Interviewees were selected based on their student participation in the engagement survey.

The needs assessment research questions were as follows:

1. What are the associations between cognitive engagement and parent involvement in school? 2. What are the associations between behavioural engagement and parent involvement in school? 3. What are the associations between emotional engagement and parent involvement in school?

The internal stakeholders included 94 student respondents. The primary barrier to collecting additional student responses was time constraints and the requirement of parent informed consent. Student participants were gathered through sending a letter home to families explaining the survey and requesting consent (See Appendix A). Those who returned the letter with signed parental consent had the survey administered in classrooms on paper by the

researcher. A total of six different classes participated including grade four, five and six.

Coulee View School had 23 students respond with the request letter sent to 40 students, New Point School had 38 students respond with the request letter sent to 46 students and Hill School had 32 students respond with the request letter sent to 52 students. Gender breakdown was 50% female and 49% male with one respondent choosing not to identify gender.

Variables used in the analysis

Engagement construct includes three domains; first, behavioral engagement, referring to participation and involvement in academic and social activities, second, emotional engagement, focusing on reactions to school, peers, teachers and academics and third, cognitive engagement, concerning the students' investment in learning endeavors (Fredrick et al., 2004). Engagement will be measured using Motivation and Engagement Scale (MES) developed by Martin (2007). The student self-report is multidimensional and includes behavioral, emotional and cognitive engagement measures. The survey is a 44 item instrument and rated using a Likert scale of 1 (Strongly disagree) to 5 (Strongly agree). The mean internal consistency for the eleven subscales included in the survey was calculated using Cronbach's alpha at 0.78 and a test-retest correlation range of 0.61-0.81. The instrument has been peer reviewed and demonstrates reliability through Cronbach's alpha as well as validity through confirmatory factor analysis that demonstrated significant correlations with achievement (Fredricks et. al., 2011). Student self-assessment of their level of emotional, behavioural and cognitive engagement was measured.

Cognitive engagement was measured using three scales from the MES including learning focus, planning, and task management. Emotional engagement was measured using five scales from the MES including self -belief, valuing, anxiety, failure or avoidance and uncertain control.

Behavioral engagement was measured using two scales from the MES including disengagement, and persistence.

Parent Involvement is defined as a construct that includes parent involvement at school and parent involvement in educational endeavors at home (Galindo & Sheldon, 2012). Parent reported involvement at school is measured by student perception of their parent's participation levels in school events, discussions with their teacher, visiting the school or volunteering. Educational endeavors in the home include monitoring of homework and activities students spend time completing with their parents (Galindo & Sheldon, 2012).

Parent involvement was measured using five subscales written by Sheldon and Epstein (2007) which included: enjoyment of parent involvement, parental involvement and monitoring of school, parental involvement in reading, parental involvement in math, and parental involvement in science. Enjoyment of parent involvement measured 3 items with a Cronbach's Alpha of 0.81. Parent involvement and monitoring at school included four items with a Cronbach's Alpha of 0.71. Monitoring of school work included three items with a Cronbach's Alpha of 0.70. Parental involvement in reading had four items with a Cronbach's Alpha of 0.80. Parental involvement in science had three items with a Cronbach's Alpha of 0.77. Finally, parental involvement in math had three items with a Cronbach's Alpha of 0.83.

Socioeconomic status was determined by the average annual family income of schools participating in the study. Alberta Education gathers average annual family income information through taxation datum from the Canadian government. Student enrolment and postal codes are used to determine the school average. All three schools fall within the lowest quartile in the province of Alberta (The Fraser Report, 2015).

Discussion

Needs Assessment Research Question One

What are the associations between cognitive engagement and parent involvement in school?

In order to answer needs assessment research question number one, a bivariate analysis was conducted to identify the strength of correlations between cognitive engagement and parent involvement. Cognitive engagement scales learning focus, planning, and task management significantly correlated to four of five scales related to parent involvement in school, including; parental enjoyment, parental involvement and monitoring, parental involvement in math, and parental involvement in science. The exception was parent involvement in reading. One possible hypothesis for this is that reading with parents was a stressful experience, possibly related to school home reading programs.

Needs Assessment Research Question Two

What are the associations between behavioural engagement and parental involvement in school?

Behavioral engagement in low socioeconomic students has a significant positive correlation to parental involvement and monitoring in school. Results suggest that the less parents were involved the education process, the less their children were cognitively and behaviorally engaged in school (Weeks, 2015). Additionally, disengagement showed a strong negative correlation with parent involvement and monitoring in school, therefore, students with more parent involvement and monitoring tended to be more engaged.

Needs Assessment Question Three

What are the associations between emotional engagement and parental involvement in school?

Emotional engagement, specifically student self-belief, was significantly correlated with enjoyment of parental involvement. This finding suggests that students who were confident in their learning tended to have parents who were more involved in their schoolwork.

Another interesting correlation that was revealed in the bivariate analysis is disengagement and uncertain control, revealing a possible intervention point. Instructional strategies that provide appropriate levels of autonomy, choice, clear expectations and scaffolding should improve student's sense of control and act as a mediator for engagement. Additionally, uncertain control is also strongly correlated with failure avoidance and anxiety, all of which are emotional engagement scales. Disengagement is significantly correlated to all emotional engagement scales and showed a strong negative correlation with parent involvement and monitoring in school.

Limitations

The limitations include the sample size in a relatively homogenous population requiring that researchers take caution in applying results to groups that vary significantly from those studied. An additional limitation includes student self-reporting on the survey. While steps were taken to ensure reliability and validity, a more complete picture could be ascertained through capturing teacher and parent points of view. The final limitation is that engagement levels change over time and throughout the course of a day. The survey was administered at a fixed point.

Conclusion

The themes that emerged when reviewing engagement literature such as the dynamic between the types of engagement and the contributing factors to student engagement levels including; student teacher relationships, instructional practice, socio-economic status and parent engagement, were supported in the needs assessment. Next steps include identifying possible points of intervention to address the problem of low levels of student engagement in upper elementary students.

CHAPTER 2

INTERVENTION LITERATURE REVIEW

Low socioeconomic status correlates with low levels of student engagement in elementary students (Finn, 1989; Lee & Smith, 1993) and engagement has been shown to decline as students move through elementary school (Marks, 2000). Coulee Flats School, Hill School, and New Point School have an average annual family income that places them into the lowest of five designated income categories (The Fraser Institute, 2014). Confirming what was found in previous research, a needs assessment conducted in Coulee Flats, Hill, and New Point schools in the Spring of 2015, found relationships between parent involvement and student engagement (Weeks, 2015). Additionally, correlations between parent involvement and student engagement were identified. As a result of the needs assessment a review of the literature related to increasing parent and community partnerships in order to positively impact student engagement was conducted. The review explores the role of socioeconomic status, family background, and culture, on the relationships between parents and schools, as well as how enhanced partnerships influence student engagement. Parent Teacher Academic Teams (PTAT) is proposed as a solution. This is followed by strategies that will be utilized in the implementation process to build the commitment and capacity of the organization and staff, and a description of the intervention. Finally, the chapter concludes with the research questions for the evaluation of the intervention.

Review of the Literature

Parent School Partnerships

A comprehensive framework for developing external involvement in schools includes: communicating, parenting, learning, decision-making, volunteering, and collaborating with the

community (Epstein, 2011). Effective community partnerships can promote attainment of higher levels of education (Barton, 2003) and assist students in accumulating social capital within their communities (Sanders, 2003). Parental involvement has a significant influence on student engagement (Henderson & Mapp, 2002) and achievement (Catsambis, 2002). Both parent involvement and engagement decline as students move up in grade levels with a significant drop when students leave elementary school (Henderson, Mapp, Johnson & Davies, 2007; Adams & Christenson, 2000). Barriers to involvement in schools include perceptions of invitations for involvement (Christianson, 2004; Patrikakou & Weissberg, 2000), context variables such as work hours (Walker et al., 2005), and sense of efficacy (Hoover-Dempsy et al., 2005). However, schools can implement successful parent and community involvement plans that influence beliefs about the importance of involvement in education (Sheldon, 2002). Additionally, community engagement can be effectively established when schools institute elements associated with quality partnership programs (Epstein, 2005). A parent involvement intervention designed to assist schools, parents, and students in collaboratively improving emotional and behavioral engagement, and academic performance could assist in mitigating socioeconomic status disparities (Hackman, Farah & Meaney, 2010), strengthen school programming (Epstein, 2011) and increase student engagement (McKenna & Millen, 2013; Li, Lerner, & Lerner, 2010).

Involvement, high expectations, and encouragement from parents are significant predictors of academic achievement (Epstein, 2001). Cognitive engagement is associated with parent involvement, specifically reading achievement for all students and mathematics achievement for low performing students (Henderson & Mapp, 2002). Further**,** students demonstrate help seeking behaviors and self-monitoring of work more frequently in school when

parents discuss academic tasks (Stright, Neitzel, Sears & Hoke-Sinex, 2001) and monitoring of schoolwork results in lower delinquency rates (Catsambis, 2001).

Courses designed to enhance parental ability to assist their child's school performance correlate with improved attendance (Portwood, Brooks-Nelson & Schoeneberger, 2015), improved graduation rates (Auerbach, 2004), and post-secondary attendance rates (Barnard, 2004). Increased attendance rates are another potential outcome of the intervention.

Communication and expertise can be multidirectional when collaborative partnerships are established between parents and teachers, enhancing students' ability to navigate the divergent cultures of school and home (Epstein, 2011). Estell and Purdue (2013) noted that children with higher levels of parental support experienced higher levels of engagement in school; therefore intervention strategies to increase partnerships between parents and schools may result in increased student engagement levels.

Family can strengthen school programming (Epstein, 2011) as well as positively influence achievement (Sheldon & Epstein, 2005). Schools should not exist in isolation to the larger communities they serve (Ubben, Hughes & Norris, 2011) and yet are often removed from local potentially supportive collaborations (Epstein, 2011). Complex learner profiles, workplace obligations, and family demographics provide challenges to parents and schools striving to meet children's needs. Barriers to involvement in schools include perceptions of invitations for involvement (Christianson, 2004; Patrikakou & Weissberg, 2000), context variables (Walker et al., 2005), and sense of efficacy (Hoover-Dempsy et al., 2005). However, schools can implement successful parent and community involvement plans that influence beliefs about the importance of involvement in education (Sheldon, 2002). Partnerships that cultivate interaction with parents are a neglected opportunity to improve learning experiences (Kladifko, 2013). Parent

involvement in learning goals promote students' growth and development, and can assist schools, parents, and the community in realizing shared educational goals.

The divide between economic classes needs to be critically considered when designing strategies to increase student engagement that are targeted towards low income students. The background and the context in which a student lives, impacts engagement levels within the middle class institution of school (Klem & Connell, 2004) and consequently, students living in poverty disproportionately experience low levels of engagement (Dunleavy & Milton, 2009). Parents living in low socioeconomic conditions have a lower likelihood of volunteering or participating in their children's schools (Hoover-Dempsey et al., 2005) or providing family resources, reading material, or a study area (Ho, 2003). However, low socioeconomic parents indicate a strong desire to be involved (McKenna & Millen, 2013). Parent perception of the opportunities and solicitations for school involvement are influential (Henderson & Mapp, 2002) and cultivated parent school partnerships may provide the structure needed to increase involvement (Sanders, 2014).

The transmission of culture received by children in the home and community contrast experiences in school; impacting a student’s ability to use background knowledge and experiences to their advantage. A white middle class female teacher can be viewed as a potential threat to the mother daughter relationship in lower socioeconomic communities, and as a result, daughters can experience psychosocial tensions in the mother, daughter and teacher relationship (Jones, 2007). Insight into the impacts of class privilege and the relationships between the working class and the institution of school informs ways in which meaningful parent involvement can be cultivated.

Blitz, Kida, Gresham and Bronstien (2013) researched parents living in low socioeconomic rural communities who have undergone stress and trauma and the corresponding effects on school engagement. The parents in the study described difficult relationships with teachers and administrators most of whom do not live in their community. The in-depth interviews revealed that communication with the school was the principle concern of parents involved in the study, and that from their perspective school personnel are not empathetic to their struggles with poverty. The authors implemented a conceptual framework to assist these families in meeting the educational goals they have for their children that built upon parents existing strengths, was trauma informed, and systems focused. Connections between a local university and social workers helped to establish outreach opportunities; a parent class focused on communication, goal setting and conflict resolution, and parent leadership opportunities were developed within the school. Results indicate an increase in trust from the perspective of parents, teachers, and administrators (Blitz et al., 2013).

Goldhaber (2002) found that approximately 60% of the variance in student test scores is attributed to individual and family background and cultural characteristics. Students arrive at school with significant variation in skills and assets deemed desirable to the education system. Leithwood and Jantzi (2000) researched the relationship between school engagement and family educational culture; which referred to the norms, beliefs, and values held by a family about school endeavors. The data for this study was collected from 2465 teachers and 44920 students in 123 elementary and junior high schools through survey responses. Findings indicated that family educational culture had strong associations with student engagement as well as a significant effect on school and classroom conditions (Leithwood & Jantzi, 2000). When a collaborative partnership is established between parents and school, communication and

expertise is multidirectional. As a result, students can to navigate the divergent cultures of school and home (Epstein, 2001).

The relationship between parental involvement and student engagement was further supported in a study conducted by Estell and Purdue (2013). Data from the National Institute of Child Health and Human Development Study of Early Child Care and Youth Development was used to examine the relative association between social supports from parents in fifth grade and school engagement in the sixth grade. Data was gathered from five sources including grade five and six teachers, classroom observations, maternal reports, and student surveys. All of the indicators of engagement positively correlated with parental involvement. The most significant correlations occurred with behavioral engagement. Children with higher levels of parental support experienced higher levels of behavioral engagement in school. Therefore, intervention strategies to increase partnerships between parents and schools may result in increased student engagement levels. The following studies evaluate the outcomes of programs implemented to specifically target parental involvement in their child's education.

Portwood and Schoeneberger (2015) studied a school district intervention called Parent University designed to engage parents in their child's education through courses and workshops such as, Helping Your Child Learn in the 21st Century. The participants included 661 parents with data collected from 862 children of enrolled parents and a control group of 835 students. Parent participation in courses designed to enhance their child's school performance, were positively correlated to an increase in student attendance, and reading scores. Results indicated that the intervention was successful in garnering parent participants with low average annual family incomes, 43.2% reported household income below $25 000, and 21.1% between $25 000 and $49 000. Additionally, 20.6% of parent participants failed to graduate from high school. The

success of the interventions in engaging parents previously underserved provides insight into how schools can successfully address the challenge of increasing parent school partnerships.

Parent involvement activities, as well as implementation strategies in traditionally underrepresented parent populations were also examined by Smith, Wohlstetter and Kuzin (2011). The researchers conducted a qualitative study based on Epstein's model of family involvement (2011) in twelve charter schools throughout six geographically diverse states. The interview protocol included 11 semi-structured questions of school leaders. Questions collected information about parent involvement activities, goals, monitoring, techniques, and challenges. Results revealed the use of innovative strategies such as wrap around services, incentives, and contracts, with consideration of contextual and cultural needs, can successfully result in increased levels of parent involvement. A limitation of the study is that interviews were only conducted with school leaders; therefore, alignment with the perspective of parents or students is unknown. Studies regarding design and application of parent programs can inform a response to student engagement levels due to the associations between parent involvement and levels of student engagement previously established in the literature (Blitz, Kida, Gresham, & Bronstein, 2013; McKenna & Millen, 2013; Li, Lerner, & Lerner, 2010).

Partnerships

Schools should not exist in isolation to the larger communities they serve (Ubben, Hughes & Norris, 2011) and yet are often removed from local, potentially supportive, outside organizations (Epstein, 2011). Partnerships that cultivate interaction with community members and organizations are essential for school success, and are a neglected opportunity to improve learning experiences (Kladifko, 2013). The complexity of learner profiles in the classroom, workplace obligations, and family demographics provide challenges to parents and schools

striving to meet children's needs. An opportunity exists to create connections to promote student's growth and development in order for schools, parents, and the community to realize shared educational goals. Community and family can strengthen school programming (Epstein, 1995), as well as positively influence achievement (Sheldon & Epstein, 2005).

Community partners can provide the social, material, and financial support schools and parents need, in order to promote student engagement and achievement, particularly in economically disadvantaged schools (Muijs, Harris, Chapman, Stoll, & Russ 2004). In a qualitative case study conducted by Hands (2009) 25 interviews were conducted with school leaders, teachers, and community partners regarding the 75 school community liaisons that were cultivated by individuals during the study. Transcripts, field notes and archival data were coded and a cross case analysis was conducted. The findings were from two secondary schools from the same district in Northern Ontario. Results included increased social capital, procurement of resources, student use of external facilities, financial support, increased desire for community members to be involved in education, and an improved school reputation (Hands, 2009). Establishing connections with the larger community results in improved student outcomes.

Student advantages as a result of school partnerships can only be realized if districts are able to establish and maintain them to the satisfaction of all members. Currently, many of the efforts in schools designed to engage community organizations operate from a deficit model (Ishimaru, 2014). Outside experts can act as educational leaders in a collaborative effort to improve student learning by building capacity and relationships, a hypothesis that was investigated in an exploratory ethnographic study on the impacts of collaboration between the Samlem-Keizer school district and the Salem-Keizer Coalition for Equality (Ishimaru, 2014).

Interviews in those districts were conducted with 48 parents, educators, community

organizers and community members using a semi-structured protocol tailored to the participant role. Data was triangulated from multiple sources including observations and interviews. Findings showed that community members were engaged to contribute expertise on the needs of students. Further, the intentional efforts to adopt mutual accountability, undertaken by both the district and the community coalition, were positively received. Capacity building and improved relationships between people throughout the system was a focus of the collaboration. Finally, district and community leaders worked toward increasing civic capacity to influence the education system. Despite the fact that the findings of the ethnography are not transferable to other school sites, it offers insight into the ways collaborations between schools and the larger community can be effectively implemented.

Sanders (2014) conducted a longitudinal multiple case study of the implementation of the comprehensive family and community engagement initiative developed by the National Network of Partnership Schools. The findings suggest that strategies employed by leadership can successfully contribute to implementation success by establishing clear context and expectations as well as providing supports and rewards. The qualitative study focussed on two geographically diverse districts and included a total of 82 schools. Data was collected through formal interviews, focus groups and observations involving district and community leaders, parents, school faculty, and staff. Findings revealed 58% of schools in the first district and 71% of schools in the second district rated the quality of their partnership programs either good or excellent on a 6-point scale. Results indicate common characteristics of district schools with successful external partnerships including a researched based focus, keeping costs at or below US $30 per pupil, flexibility, knowledgeable leadership, and professional influence (Sanders, 2014).

The Intervention: Parent Teacher Academic Teams

Parent teacher academic teams (PTAT), modeled after Paredes (2011) work, will be the intervention implemented to form a partnership between families and schools in order to improve student engagement and parent involvement. Academic Parent Teacher Teams, the model created by Paredes (2011), was designed with six components, including: parent-teacher communication, data sharing, goal setting, teacher coaching of parents, practice materials, and parent engagement. PTAT includes three components: communications, data sharing, and strategies for action. The revised model consolidated goal setting, teacher coaching of parents, and practice materials into one component called strategies for action. Parent involvement is an outcome of the intervention. The name was changed to PTAT to emphasize the parent teacher team.

PTAT (Paredes, 2011), are designed to assist schools, parents, and students in collaboratively improving emotional, behavioral, and cognitive engagement, as well as assist in mitigating SES disparities. PTAT's require the participation and involvement of three distinct groups including teachers, parents, and students. Each stakeholder group's interests must connect to the larger common goal of advancing student's educational outcomes (Bryson, 2004); however, teachers will have the task of engaging both parent and student participation in the intervention. The role of the teacher involves program delivery of all three components of the program to parents and students, including communication, academic data, and strategies for action. It is predicted that teachers will invest time and effort in the implementation of the intervention due to the anticipated outcomes of increased behavioral, emotional, and cognitive student engagement (Blondal & Adalbjarnardottir, 2014; Cooper, 2014), as well as increased parent involvement (McKenna & Millen, 2013; Molina, 2013; Sanders, 2014).

The role of parents in the implementation of PTAT includes participating in the three program components, thereby increasing involvement in school programming positively influencing student achievement (Epstien, 2011; Sheldon & Epstein, 2005). The PTAT intervention aims to provide teachers and parents with a framework that addresses the problem of low levels of parent involvement and behavioural, emotional, and cognitive engagement. Meaningful data collection requires parents to engage in the initiative despite barriers to involvement such as context variables (Walker et al., 2005), sense of efficacy (Hoover-Dempsy et al., 2005), and perceptions of invitations for involvement (Christianson, 2004). Further, power imbalances between parents and other stakeholders must be considered to limit bias (Brandon & Fukunaga, 2014).

Students participating in PTAT will provide quantitative data on their level of engagement and their perceptions of parent involvement pre and post intervention. The survey questions are located in Appendix A. The three intervention pathways included in PTAT are discussed further below.

Communications

Abel (2012) found invitations for involvement in school significantly contributed to parent involvement. Specifically, the way the teacher communicated influenced father's responses to home-based school related requests. Further, parents from low socioeconomic backgrounds have perceived poor communication (Blitz, Kida, Gresham & Bronstein, 2013) and a lack of empathy (Jones, 2007) from school personnel as a barrier to academic involvement. In order to prevent this potential implementation problem all ten participating teachers received training in communication skills from the primary researcher. Personal parent invitations were crafted by teacher participants and collected by the researcher. The invitations were written in a

manner that was reflective of the training to regard parents as equal partners who have valuable knowledge and expertise that can inform students learning experiences. Given the varied reading and education levels of the parents, one invitation was reviewed collaboratively with each of the ten participating teachers to ensure they portrayed a contextual understanding of the unique needs of individual families.

After thirty days the teacher and parents connected either through email, phone, or in writing to check progress and adjust if needed. Teachers used a communication recording sheet created by the researcher to indicate when the check-in occurred between the school and home. The method for the check-in was considerate of contextual needs and was determined at the same time the personal invitation was crafted. The communication recording sheet included suggested alternative forms of communication if the teacher had difficulty reaching a particular parent, as well as the contact information for the family school liaison worker. The family school liaison role includes helping teachers communicate with parents. Further, teachers were asked to notify the primary researcher if this barrier persisted.

Academic Data Sharing

A class meeting took place in October 2016, with students, parents, the teacher, and service providers to review academic data of all students. In the group meeting students and parents received detailed information about outcomes and performance data of the class. Following the class meeting each family received a ticket for a come and go dinner that was provided by the school. Families had access to the school library, student work was showcased in hallways, and community service providers had information displayed, while parents waited for their individually scheduled meeting. Duplicate meetings took place on two consecutive evenings, and parents attended the one that aligned best with their schedule.

Parents and students attended scheduled individual meetings the same evening, or if needed, at another time of mutual convenience. During this time, confidential performance data was discussed to ensure a clear understanding of current achievement, and the strategies for action were identified. The teacher recorded attendance in the class and individual meetings. Childcare was provided at the school at no cost to families and was available during class and individual meetings for siblings to prevent distraction.

Strategies for Action

In an individual fifteen - minute meeting, parents, the teacher, and the student collaboratively set a sixty-day learning goal. As noted in the theory of change, the underlying process of parent teacher collaboration leads to increased parent involvement. Additionally, the parent and the teacher identified two strategies to work with their child at home. They practiced as a team to ensure fluency with the strategies, and the school provided all needed materials at no cost to the family. Further, teachers used a Strategies for Action Recording Sheet, to note the selected approaches. This provided information associated with adherence and participant responsiveness to the program (Dusenbury, Barnnigan, Falco & Hansen, 2003).

The frequency the parent and student completed the strategies in the home was recorded by the parent on a recording sheet provided by the classroom teacher. The sheet only required parent initials so parents could prioritize their time for working towards the identified learning target. The recorded dose provided information about the number of sessions completed, however, it is important to note that parent reports may over estimate frequency and duration (Dusenbury, Barnnigan, Falco & Hansen, 2003).

Each stakeholder group's interests must connect to the larger common goal of advancing student's educational outcomes (Bryson, 2004) however teachers had the task of engaging both

parent and student participation in the intervention. The role of the teacher involved program delivery of all three components of the intervention to parents and students, including communication, academic data, and strategies for action. It was predicted that teachers will invest time and effort in the implementation of the intervention due to the anticipated outcomes of increased behavioral, emotional, and cognitive student engagement (Blondal & Adalbjarnardottir, 2014; Cooper, 2014) and increased parent involvement (McKenna & Millen, 2013; Molina, 2013; Sanders, 2014).

Teachers have influence on parents and students views of the intervention and need to commit a significant amount of time to the initiative. Teachers were required to implement parent teacher academic teams with fidelity or program success would not be possible. Garnering their support occurred through sharing the results of a needs assessment verifying the problem (Weeks, 2015), evidence that parent teacher academic teams may improve parent involvement (Paredes, 2011) and student engagement (Estell & Purdue 2013), and the provision of two division substitution days. Further, Parent Teacher Academic Teams replaced the student led, or parent teacher conferences currently in place in an effort to limit additional workload. Participating teachers were clustered in schools, and school based administration were involved to provide onsite support to new hires as well as collaborative opportunities.

The role of parents in the implementation of parent teacher academic teams included participating in the four program components, thereby increasing involvement in school programming positively influencing student achievement (Epstein, 2011; Sheldon & Epstein, 2005). The intervention aimed to provide parents with data supported evidence that parent teacher academic teams improves: behavioural, emotional, and cognitive engagement, and parental involvement (Weeks, 2015). Parents signed formal consent for their children to

complete pre and post survey responses and held influence over students answering thoughtfully and honestly. Meaningful data collection required parents to engage in the initiative despite barriers to involvement such as context variables (Walker et al., 2005), sense of efficacy (Hoover-Dempsey et al., 2005), and perceptions of invitations for involvement (Christianson, 2004). After thirty days, the teacher and parents connected either through email, phone, or in writing to check progress and adjust if needed. After the sixty- day intervention parents were invited to a second class and individual meeting to review progress toward the shared academic goal. The school provided phone cards and language translation services for parents who are unable to connect via written communication and do not have another method to speak with the teacher. Communication training was provided for the teacher and a personal invitation were crafted that regarded parents as equal partners who have valuable knowledge and expertise to inform students learning experiences. This required a contextual understanding given the varied levels of education and reading levels of the parents. Further, power imbalances between parents and teachers (Brandon & Fukunaga, 2014) were discussed during the training.

A description of the ten schools participating in the intervention is provided in table one. Schools were selected from a single division and vary in geographical and SES context.

Table 1. Participating School Descriptions for Parent Teacher Academic Teams

School Name	Student Population	Grade Configuration	Context
Sunny Brook Academy	Approximately 120 students	Pre K - 9	Located in a small rural community. Average annual family income (AAFI) is in the second lowest quartile in the province.
Oberwich Public School	Approximately 150 students	Pre K - 9	Located in a small rural community. AAFI is in the bottom quartile of the province.
Isaac T. Wellington Public	Approximately 350 students	Pre K - 3	Located in a small town adjacent an urban center. AAFI is in the bottom quartile of the province.
Mountainview	Approximately 180 students	4 - 6	Located in a small town adjacent an urban center. AAFI is in the bottom quartile of the province.
Sunnyside Elementary	Approximately 380 students	Pre K - 9	Located in a small rural hamlet. AAFI is in the top quartile in the province.
Royal Heights	Approximately 120 students	Pre K - 9	Located adjacent a rural military base. AAFI is in the lowest quartile in the province.
Janice Churchhill	Approximately 85 students	Pre K - 9	Located in a small rural hamlet. AAFI is in the lowest quartile in the province.
Hillcrest Academy	Approximately 280 students	Pre K - 9	Located in a rural community. AAFI is in the second lowest quartile in the province.

Beaver Creek	Approximately 90 students	Pre K - 9	Serves a Low Speaking German Mennonite population. AAFI is in the lowest quartile in the province.
Bay Ridge	Approximately 110 students	Pre K - 4	Located in a small rural community. AAFI is in the second highest quartile in the province.

Research Questions

The questions posed in this research study are as follows:

1. What is the relationship between students' engagement and parental participation in PTAT?

2. What is the relationship between students' perceptions of parental engagement and PTAT participation?

3. What is the relationship between teachers' perceptions of parental involvement as a result of PTAT participation?

4. What is the relationship between parents' perceptions of the teacher-parent relationship as a result of PTAT participation?

The answers to these questions will be explored using mixed methods inquiry, the methodology for which will be examined in the subsequent chapter.

Conclusion

The literature review reveals support for the hypothesis that enhanced parent partnerships may positively influence levels of student engagement. Forming partnerships between parents and schools assists in the establishment of pathways for providing innovative and successful programming while generating social value (Pache & Chowdhurry, 2012). Established collaborations between parents and school results in improved communication, and

multidirectional expertise resulting in students who are better prepared to navigate the divergent cultures of school and home (Epstein, 2001). A responsive and flexible approach will assist in developing collective ownership, capacity, and commitment (Evans, Thornton & Usinger, 2012). The intended outcome of the intervention is increased emotional, behavioral, and academic engagement via strengthened parent teacher partnerships, a point of intervention that is supported in the literature (Estell & Purdue, 2013; Henderson & Mapp, 2002; Auerbach, 2004) and referred to in the theory of change located in Appendix D. The outcomes are further delineated in the logic model located in Appendix E.

CHAPTER 4

EVALUATION

Process Evaluation

To what extent were the four Parent Teacher Academic Teams (PTAT) intervention pathways implemented, and delivered as planned? This process evaluation question is explored in the following evaluation plan. The three pathways measured include; communications, academic data sharing, and strategies for action. PTAT have been adapted from an intervention that was successfully delivered by Paredes (2011), providing insight into process fidelity related to the essential components of the intervention. For the purposes of the following evaluation plan, fidelity is conceptualized as adherence, exposure, participant responsiveness, quality of delivery, and program differentiation (Nelson, Cordrey, Hulleman, Darrow & Sommer, 2012).

The intervention was implemented across ten sites in a variety of contexts across Prairie Ridge School Division. Ensuring the essential elements of PTAT are employed consistently resulted in data that better informs district decision makers. Consideration of adherence, therefore, is critical to evaluate the benefits of the program (Dusenbury, Barnnigan, Falco & Hansen, 2003). The length of the sessions, fifteen minutes, and the duration of the program, sixty days, was clearly defined for parents. Overall dosage was calculated as the extent the three interventions pathways were implemented in PTAT (Dusenbury, Barnnigan, Falco & Hansen, 2003). This included parent attendance at the class meeting and the individual parent teacher meetings. Implementation could not be fully realized without the data and information that was shared at this time. If attendance had not been tracked students could have filled out the survey and have their data included in the quantitative results of the study without having gone through the intervention.

Unfortunately, the dosage participants received in Paredes (2011) study is not available, however, parent intervention logs were kept to record exposure. The establishment of criterion ranges for; low, medium, and high participation, were completed by key stakeholders (Rossi, Lipsey & Freeman, 2004).

Participant responsiveness was measured via intervention logs, parent interviews, and teacher interviews. Communication was one of the key intervention pathways leading to the short, medium, and long-term outcomes identified in the logic model. Therefore, the nature of the intervention itself requires participant responsiveness. Interviews were conducted by the researcher to measure quality of delivery in terms of its alignment with PTAT content (Dusenbury, Barnnigan, Falco & Hansen, 2003).

The three identified intervention pathways; communications, sharing academic data, and strategies for action are the elements of program differentiation in the study. Evaluation of the separate intervention pathways allowed the researcher to conduct component analysis (Dusenbury, Barnnigan, Falco & Hansen, 2003). The process evaluation plan allows for formative assessment (Saunders, Evans & Joshi, 2016) ensuring the researcher was positioned to make corrections in regard to fidelity during intervention. This is important in action research because of adaptations to the intervention in the classroom settings (Holliday, 2014).

Fidelity

The three pathways measured included; (a) communications, (b) academic data sharing, and (c) strategies for action. For the purposes of the evaluation plan, fidelity was conceptualized as (a) adherence, (b) exposure, (c) participant responsiveness, (d) quality of delivery, and (e) program differentiation (Nelson, Cordrey, Hulleman, Darrow & Sommer, 2012).

The intervention was implemented across ten sites in a variety of contexts across a single

school division. Ensuring the essential elements of PTAT were employed consistently resulted in data that better informed district decision makers. Consideration of adherence, therefore, was critical to evaluate the benefits of the program (Dusenbury, Barnnigan, Falco & Hansen, 2003). The length of the individual parent meetings, fifteen minutes, and the duration of the program, sixty days, were clearly defined for parents. Overall dosage was calculated as the extent the three interventions pathways are implemented in PTAT (Dusenbury, et al., 2003). This included parent attendance at the class meeting and the individual parent teacher meetings. Implementation could not be fully realized without the data and information that was shared during these times. If attendance was not tracked students could have filled out the survey and have their data included in the quantitative results of the study without actually having gone through the intervention, therefore parent recording sheets were kept noting exposure.

Parent participant responsiveness was measured via parent interviews, and teacher interviews.

The three identified intervention pathways (a) communications, (b) sharing academic data, and (c) strategies for action were the elements of program differentiation in the study. The evaluation plan allowed for formative assessment (Saunders, Evans & Joshi, 2016) ensuring the researcher was in a position to make corrections in regard to fidelity during intervention by including a thirty-day check in, an important component in action research because of adaptations to the intervention in the classroom settings (Holliday, 2014).

Recording sheets for each pathway along with invitations for reflection make up the intervention log that was kept for every participating student. Teachers were responsible for all components of the log except the parent-recording sheet, which was kept by the participating parent. The parent recording sheet was used to note when the strategies for action were used in

the home. Each pathway identified in Table 2 was an indicator of fidelity with the corresponding data source, and collection tool to ensure PTAT was implemented in the manner intended by the researcher.

Table 2. Fidelity Data Collection Matrix for Parent Teacher Academic Teams

Fidelity Indicator	Data Source	Data Collection Tool	Frequency	Responsibility
Communications	Communications Samples	Checklist	10 times	Researcher
	Teachers	Communication Recoding Sheet	60 days	Teacher
Academic Data Sharing	Teachers	Attendance Recording Sheet	10 times	Teacher
Strategies for Action	Teachers	Strategies for Action Recording Sheet	60 days 60 days	Teacher
		Attendance Recording Sheet		Teacher
	Random Sampling	Parent Interview	5 interviews	Researcher
		Teacher Interview	10 interviews	Researcher

Outcome Evaluation

Engaged students achieve, participate, develop positive affective relationships within school, assist in classroom management, and become skilled learners (Fredricks, Blumenfeld & Paris, 2004). Upper elementary students attending Coulee Flats School, Hill School, and New Point School were identified as demonstrating low levels of student engagement (Weeks, 2015). This is a challenge for those students because engagement can be a factor in a learner persisting through difficult tasks, achieving academic milestones, and attaining professional success (Cooper, 2014; Martin, 2007). Student engagement is linked to higher levels of student achievement (Blondal & Adalbjarnardottir, 2014), and lower school dropout rates (Teachman, 2008).

When parents and teachers work collaboratively improvements are found in emotional and behavioral engagement (Estell & Purdue, 2013), academic performance (Sheldon & Epstein, 2005), socioeconomic status disparity (Hackman, Farah & Meaney, 2010), and cognitive engagement (McKenna & Millen, 2013; Li, Lerner, & Lerner, 2010). Parent Teacher Academic Teams (PTAT), modeled after Paredes' (2011) work, partner teachers and parents in a professional learning community. The intended long-term outcome of the intervention is increased emotional, behavioral, and cognitve engagement via strengthened parent teacher partnerships (Estell & Purdue, 2013; Henderson & Mapp, 2002; Auerbach, 2004). See Figure 1, which depicts the logic model that includes the short, medium, and long - term outcomes anticipated from the implementation of PTAT follows.

Logic Model

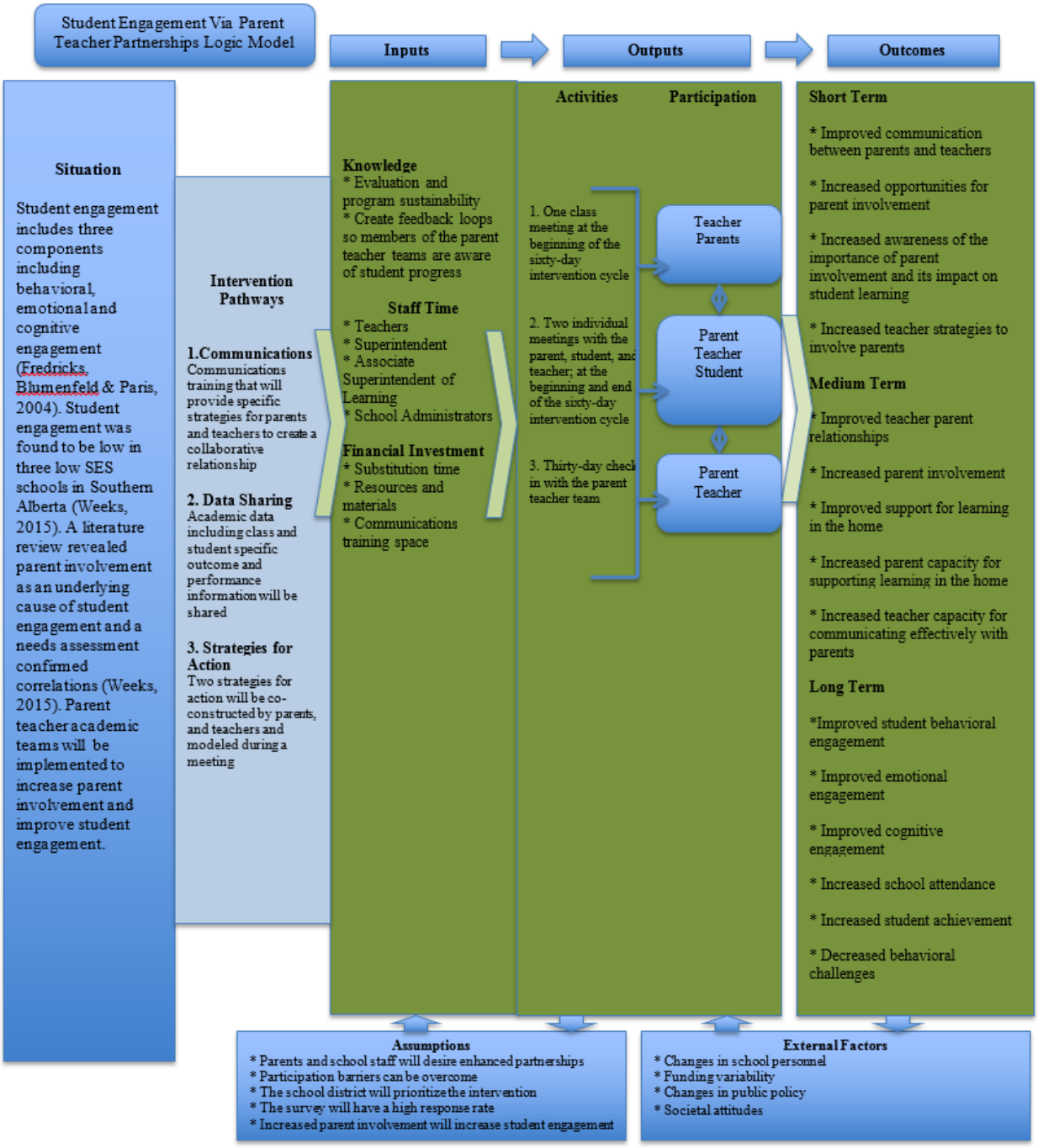

Figure 1. The logic model depicts the intervention pathway of PTAT. The arrows depict the sequence of the intervention.

Effect Size

The effect size for the intervention was determined by examining meta-analysis studies related to parent involvement. Variability in effect size related to parent involvement is significant (Senechal & Young, 2008). For instance, in Senechal and Young's (2008) meta-analysis they found an effect size of 0.65 with a confidence interval of 95% for the impact of parent involvement on reading acquisition. Compare this result to Patall's, Cooper's, and Robinson's (2008) finding of an effect size of 0.28 in their meta-analysis of 12 studies for parent training for homework completion. Therefore, the researcher needed to determine the effect sizes of studies that were most closely aligned with PTAT. The PTAT intervention is expected to have an effect size of 0.20. This was determined by examining research that delineated the type of parent involvement and the resulting outcomes in the studies included in the meta-analysis (Castro, Exposito- Casas, Lopez-Martin, Lizasoain, Navarro-Asencio & Gaviria, 2015). Castro et al., found 37 primary studies that met their criteria of an intervention related to the way parents and teachers interact. A mean effect size of 0.2 was calculated based on improved school outcomes related to the intervention. This study is a within-subjects design, which uses Eta squared for comparisons. As such 0.2 is a large effect size based on Cohen's criteria (Paredes, 2011).

A dependent *t* test showed the relationship between the pre - and post - intervention survey scores, and repeated measures ANOVA's were conducted concurrently in order to minimize error. Additionally, the Wilks Lambda procedure was used to measure the interrupted time series design. The results of the statistical analysis were used to determine the difference across time and between the ten school intervention sites. Two-way ANOVA's were conducted

to determine whether statistical differences occurred between gender, and student engagement and parent involvement scales.

Strengths and Limitations of Evaluation Design

A sample size of 620 would have been required for an effect size of 0.2, if the evaluation plan included controls trials, which are needed for randomized experiments, often regarded as the highest standard of research design (Henry, 2010). This sample size exceeded the confines of this study. It was not anticipated that the researcher could recruit and retain 620 participants for the duration of the intervention. This fact, combined with other challenges, such as the time constraints to complete the research, resulted in the elimination of a randomized experiment design.

Both quasi-experimental matching and regression discontinuity designs were considered as options, given the sample size of 156 students, 15 teachers, 117 parents and fell within the number anticipated participants. In addition to the problem of selection bias, prevalent in matched design (Sadish et al., 2002), was the diversity between the ten participating schools was significant, with too many extraneous variables to be controlled to establish matched pairs for the treatment and control condition. One of the challenges of choosing which schools would receive the treatment and those that would not was the threat of unmeasured differences between contexts that may be correlated with the outcome (Sadish, Cook, & Campbell, 2002). Assigning treatment group and control groups within a school, using a quantitative assignment variable, presented threats to fidelity. Teachers could not be expected to create PTAT for some students, and control the knowledge and understanding gained, in order to interact with others, the way they would have prior to the training.

Challenges of within subject design include maturation, particularly problematic for those

working in an educational setting, because of expectations that students will improve academic outcomes over time (Sadish et al., 2002). Given that the evaluation measured parent involvement and student engagement, the threat of gains related to the passing of time, as opposed to the intervention, was not necessarily as salient as it may have been in other education interventions. Sadish et al., (2002) also identify history as an internal validity threat because it is possible that other interventions simultaneously implemented could impact the outcome. Further, testing is a threat if students have received feedback from parents or teachers related to questions about engagement or parent involvement. A way to improve pre and posttest design was to add nonequivalent dependent variables (Sadish, Cook & Campbell, 2002).

Method

Participants

In order for this design to attain an effect size of 0.2, power of 0.8, and an error of probability of 0.05, 156 study subjects were required for a quasi-experimental or regression discontinuity design. It was expected that the number of participants would exceeded the minimum of 156 given the projected enrollment numbers upper elementary students in the ten schools identified for participation in the intervention. Schools reported an average of 75% of parents attending student led conferences in the 2015-2016 academic year. Total participants included 168 students, 123 parents, and 10 teachers, however survey data was only collected from students. Participation was voluntary for teachers, and all of those who expressed an interest were included in the study. At the beginning of the intervention a total of 223 students were enrolled in the ten participating teachers classes. Signed permission forms were returned for 181 students. Due to migration and attendance 168 students completed the intervention.

Of the 181 students enrolled in the study, 168 completed the intervention had a parent

attend a data-sharing meeting, identified a learning goal, and two strategies for action. This information was collected and recorded by the participating teacher. Over the course of the intervention parents were asked to complete the strategies for action 42 out of 60 days. The average number of days that indicated completion on the recording sheets returned by parents was 39, or 93%. A total of 139 parent-recording sheets were returned, or 83%.

Measures

An interrupted time series design was used to evaluate the PTAT intervention. For the pre and post intervention, students completed scales from MES, (Martin, 2007) and SSFCI, (Sheldon & Epstein, 2007) in a survey to gather quantitative data. The first survey was administered during September 2016, and the second took place December 2016. Cognitive engagement was measured using three scales from the MES, including learning focus, planning, and task management. Emotional engagement was measured using five scales from the MES, including self -belief, valuing, anxiety, failure or avoidance and uncertain control. Behavioral engagement was measured using two scales, including disengagement and persistence. SSFCI measured parent involvement using five student - reported subscales: enjoyment of parent involvement, parental involvement and monitoring of school, parental involvement in reading, parental involvement in math, and parental involvement in science (Sheldon & Epstein, 2007). The survey was administered to the students by the researcher at each school site. Data was collected pre and post intervention, and at the 30 - day mark during the intervention.

Qualitative data was gathered to answer research questions two and three related to teacher perception of parent involvement and parent perception of teacher-parent communication. Semi-structured interviews were conducted with ten teachers and five parents. One teacher from each of the participating schools, and parents, representing each of the school

divisions' geographical areas the schools are clustered within, were randomly selected. Interviews were digitally recorded and transcribed. The teacher interviews included six questions and the parent interviews contained seven questions, both of which are located in Appendix C. Interviews lasted between thirty and forty - five minutes.

Procedure

Communications

Personal parent invitations were crafted and collected to ensure they are written in a way that is reflective of the training to regard parents as equal partners who have valuable knowledge and expertise to inform students learning experiences. Given the varied reading and education levels of the parents one invitation was reviewed collaboratively with each of the ten participating teachers to ensure they portrayed a contextual understanding of the unique needs of individual families. The primary researcher used a checklist to ensure the objective of multidirectional communication, and parent expertise is recognized in the personal invitations in all ten schools.

After thirty days the teacher and parents connected either through email, phone, or in writing to check in on progress and adjusted if needed. Teachers used a communication log created by the primary researcher to indicate when the check-in occurred between the school and home. The method for the check-in was considerate of contextual needs and was determined at the same time the personal invitation was crafted. The communication log included suggested alternative forms of communication if the teacher experienced difficulty reaching a particular parent as well as the contact information for the family school liaison worker. The family school liaison role includes helping teachers communicate with parents. Further, teachers were asked to notify the primary researcher if this barrier persisted.

Academic Data Sharing

A class meeting took place in October 2016, with parents, the teacher, school administrator, and service providers to review academic data of all students. In the group meeting parents received detailed information about outcomes and performance data of the class.

During individual meetings parents received confidential information that was specific to their child so they had a clear understanding of current achievement. Further, the teacher recorded parent attendance.

Strategies for Action

In an individual thirty- minute meeting, parents, the teacher, and student collaboratively set a sixty-day learning goal. As noted in the theory of change, the underlying process of parent teacher collaboration leads to increased parent involvement. Additionally, they identified two strategies to work with their child at home. They practiced as a team to ensure fluency with the strategies, and the school provided all needed materials at no cost to the family. Observations of three PTAT meetings took place and a recording sheet was used to note related data. Further, teachers used a Strategies for Action Log, created by the primary researcher, to record the selected strategies, as well as parent attendance. This provided information associated with adherence and participant responsiveness to the program (Dusenbury, Barnnigan, Falco & Hansen, 2003).

The frequency the parent and student completed the strategies in the home was recorded by the parent on an intervention log designed by the researcher. The log only required parent initials so parents could prioritize their time for working towards the identified learning target. The recorded dose provides information about the number of sessions completed, however, it is

important to note that parent reports may over estimate frequency and duration (Dusenbury, Barnnigan, Falco & Hansen, 2003).

The outcome variables included student engagement, which were quantitatively measured via MES (Martin, 2007) pre and post intervention by the researcher. Parent involvement acted as a second outcome variable and was measured using SSFCI (Sheldon & Epstein, 2007) parental involvement scales in a pre and post intervention survey. Data on PTAT, which acts as the control variable, was collected in intervals throughout the intervention at all ten school sites. Teachers kept strategy and attendance logs, parents kept intervention logs, and the researcher conducted post intervention interviews.

The timeline for the implementation of PTAT is listed in table 3 below.

Table 3. Implementation Timeline for Parent Teacher Academic Teams

Timeline	Activities	Process	Frequency/Duration	Responsibility
August to September 2016	Recruitment for ten participating schools	Meeting with principals and classroom teachers	1 time	Researcher
August to September 2016	Recruitment for student participants in the project	Parental consent forms and research letters distributed	1 time	Researcher and Teacher
August to September 2016	Training for teachers and family school liaison workers on PTAT	Substitute teachers are provided Session delivered to participants in central office by the researcher	1 time	Researcher
September 2016	Pre intervention survey administered to students in participating schools with informed consent	Researcher will attend each school and classroom to deliver the survey	1 time	Researcher
September 2016	Parents receive a teacher crafted invitation to participate in PTAT	Teachers will write the invitations on the training day and will be sent immediately following the pre intervention survey	1 time	Teacher
October 2016	Class meeting and individual parent meetings	Meetings scheduled by the teacher Class data is shared in the class	1 time per class and 1 time per participating family	Teacher Researcher will observe 3 class meetings and 3

		meeting Student data, Strategies for action, and parent recording sheet are shared in the individual meeting		individual parent meetings
October 2016	Midway communications check in	Teachers communicate with parents about implementation to date	1 time	Teachers
November 2016	Post intervention survey administered to students in participating schools with informed consent	Researcher will attend each school and classroom to deliver the survey	1 time	Researcher
November 2016	Class meeting and individual parent meetings	Meetings scheduled by the teacher Class data is shared in the class meeting Student data is shared in the individual meeting	1 time per class and 1 time per participating family	Teacher Researcher will observe 3 class meetings and 3
November and December 2016	10 teacher interviews	The researcher will conducted open ended interviews	10 times	Researcher
November and December 2016	5 parent interviews	The researcher will conduct open ended interviews	5 times	Researcher
January and February 2016	Data Analysis and Evaluation	The researcher will complete the evaluation design on collected data	Ongoing	Researcher

Data Analysis

It was anticipated that the implementation of PTAT would result in a significant increase in student engagement, and students' perception of parental involvement, for participating upper elementary students. Quantitative analysis was conducted to answer the first and second research questions; what is the relationship between students' engagement and parental participation and what is the relationship between students' perceptions of parental engagement and PTAT participation? Qualitative data was gathered from parent and teacher interviews to answer the third and fourth questions; what is the relationship between teachers' perceptions of parent involvement and PTAT participation and what is the relationship between parents' perceptions of the teacher-parent relationship and PTAT participation?

An analysis was conducted using ten repeated measures ANOVA's to evaluate the potential effects of PTAT. The analysis represented all PTAT student participants, for each of the ten scales identified in the pre and post surveys measuring within subject variables. Results from this statistical test will demonstrate whether differences in student perception of engagement and parental involvement as a result of implementing PTAT occurred. Nominal measures were used for gender and grade level and ordinal measures will be used for student engagement and parent involvement measure, both of which use a Likert scale. The student engagement measures had five possible answers, which included; disagree strongly, disagree, neither agree nor disagree, agree, and agree strongly. The parent involvement measures had four possible answers, including; everyday/most days, once a week, rarely, and never. Two-way ANOVA's were conducted to determine whether gender was related to the outcomes of the student engagement and parent engagement scales.

Qualitative data was analyzed using hermeneutic methods, including constant

comparative method (Strauss & Corbin, 1998), and thematic narrative analysis (Riessman, 2008) were used to identify manifest and latent meaning in the data (Newcomer, Hatry & Wholey, 2015). Coding for analysis of the qualitative data was inductively generated, by identifying categories within the text segments, from which a codebook was developed. Member checks were conducted with five teachers and two parents who were interviewed. Table 3 below is a data collection matrix that aligns the four research questions with measures, data collection, and data analysis.

Summary Matrix

Table 4. Data Collection Matrix

Research Question	Measures	Data Collection	Data Analysis
What is the relationship between students' engagement and parental participation in PTAT?	MES (Martin, 2007) SSFCI (Sheldon & Epstein, 2007)	Pre and post intervention student survey	Quasi-experimental interrupted time series Repeated Measures ANOVA
What is the relationship between students' perceptions of parental engagement and PTAT participation?	SSFCI (Sheldon & Epstein, 2007)	Pre and post intervention student survey	Quasi-experimental interrupted time series Repeated Measures ANOVA
What is the relationship between teachers' perceptions of parent involvement and PTAT participation?	Interviews	10 teacher interviews Post intervention analysis of intervention logs	Constant comparative methods Thematic narrative analysis
What is the relationship between parents' perceptions of the teacher-parent relationship and PTAT participation?	Interviews	5 parent interviews Post intervention analysis of intervention logs	Constant comparative methods Thematic narrative analysis

CHAPTER 5

RESULTS

Process of Implementation

A brief summary of the process of implementation is followed by the findings from the intervention. The quantitative analyses of the data are presented from the pre - and post - intervention student survey using complete scales from MES, (Martin, 2007) and SSFCI, (Sheldon & Epstein, 2007). Qualitative analysis follows that includes assertions from themes collated from participant interviews. Finally, discussion that includes recommendations, and limitations conclude the paper.

The pre and post survey consisted of sixty-three questions including three Cognitive engagement scales, five emotional engagement scales, two behavioral engagement scales, and five parent involvement scales. The pre-test was measured in September prior to the introduction of PTAT to parents of students. The post intervention survey was administered in December following the second class, and individual parent meetings. One hundred sixty - eight students completed the both the pre and post intervention survey, 90 of which were female, and 68 were male. Students ranged from grade three to grade six. Thirteen students completed only the pre-survey due to migration or attendance on survey administration days, therefore, those student results were not included in the final analysis.

This approach allowed the researcher to compare variables over time at the conclusion of the intervention using a split-plot ANOVA and inferential statistics. This analysis answers two research questions, "What is the relationship between students' engagement and parental participation in PTAT?"; and "What is the relationship between students' perceptions of parental engagement and PTAT participation?"

Qualitative data was gathered through ten semi - structured interviews with teachers participating in PTAT, as well as five semi-structured PTAT participating parent interviews. The teachers are all certified in the province of Alberta, and hold undergraduate degrees in education. Three teachers had completed graduate degrees in education. One taught grade three, four taught grade four, two taught grade five, one taught a four five combined class, and two taught grade six. Seven were female and three were male. Of the five parents interviewed, three were mothers and two were fathers. The individual interviews were between thirty and forty-five minutes long and were digitally transcribed. Constant comparative method (Strauss & Corbin, 1998), and thematic narrative analysis (Riessman, 2008) were used to inductively generate coding. Themes emerged from this data that resulted in the assertions presented in the results as answers to the following questions, "What is the relationship between teachers' perceptions of parent involvement as a result of PTAT participation?"; and " What is the relationship between parents' perceptions of the teacher-parent relationship as a result of PTAT?"

Findings and Discussion

Research Question One

What is the relationship between students' engagement and parental participation in PTAT?

The emotional, behavioral, cognitive and parental engagement scales all had improved scores in the post-test with the exception of task management. One possible explanation may be that tasks become more complicated as the year progresses.

Five, one - way repeated measured analysis of variance (ANOVA) were conducted to evaluate the null hypothesis that there is no change in participants' emotional engagement scales. The results of the ANOVA for the self-belief scale indicated a non-significant time effect,

(Wilks' Lambda = .94, $F(1,168) = 3.31$, $p < .07$, $n^2 = 0.06$). The repeated measures ANOVA for the valuing scale for emotional engagement also indicated a non-significant time effect, (Wilks'Lambda = .99, F (1,168) = .185, $p < .67$, $n^2 = 0.03$). The next repeated measures ANOVA for the anxiety scale for emotional engagement showed non-significant time effect, (Wilks' Lambda =.995, F (1,168) = .301, $p < .59$, $n^2 = 0.01$). Failure or avoidance results showed a significant time effect, (Wilks' Lambda = .908, F (1,168) = 5.65, $p < .02$, $n^2 = 0.09$). The final emotional engagement scale was uncertain control, which was also significantly different at the end of PTAT. (Wilks' Lambda = .764, F(1,168) = 17.32, $p < .0005$, $n^2 = 0.24$). This scale demonstrated the most significant time effect and the largest effect size for emotional engagement. Overall, the study showed mixed results with respect to emotional engagement, thus, there is not significant evidence to reject the null hypothesis.

Two, one way repeated measured ANOVA's were conducted to evaluate the null hypothesis that there is no change in participants' behavioral engagement scales. The findings for disengagement show a non-significant time effect; (Wilks' Lambda = .965, F (1,168) = 2.04, $p < .16$, $n^2 = 0.04$). Similarly the second behavioral engagement scale for persistence showed a non-significant time effect, (Wilks' Lambda = .97, F (1,168) = 1.78, $p < .19$, $n^2 = 0.03$). There is not sufficient evidence to reject the null hypothesis.

Cognitive engagement consists of three scales and a repeated measure ANOVA was conducted for each. The first, learning focus, showed (Wilks' Lambda = .99, F (1,168) = 7.03, $p < .41$, $n^2 = 0.01$). The second, planning, showed (Wilks' Lambda = .98, F (1,168) = .94, $p < .34$, $n^2 = 0.02$). The final scale, task management, results were (Wilks' Lambda = .99, F (1,168) = .79, $p < .38$, $n^2 = 0.14$). These results show insufficient evidence to reject the null hypothesis that there is no change in participants' cognitive engagement.

Pre and post- test means and standard deviations are located in Table 5 for the ten student engagement scales included in the student survey. While a positive time difference was noted in 9 of 10 total scales, the change was statistically significant for two emotional engagement scales; failure or avoidance, and uncertain control.

Table 5. Student engagement and parental participation

Emotional Engagement	N	Pre-test M	Pre-test SD	Post-Test M	Post-test SD	p-value	n^2
Self-belief	168	4.19	0.79	4.36	0.65	.07	.06
Failure Avoidance	168	2.64	1.23	2.35	1.25	.02	.09
Anxiety	168	3.16	0.94	3.10	0.90	.59	.01
Valuing	168	4.12	0.62	4.22	0.67	.67	.03
Uncertain Control	168	2.66	0.73	2.26	0.83	.0005	.24
Behavioral Engagement Scales	**N**	**Pre-test M**	**Pre-test SD**	**Post-Test M**	**Post-test SD**	**p-value**	**n^2**
Persistence	168	3.90	0.67	4.03	0.70	.19	.03
Disengagement	168	1.85	0.75	1.72	0.69	.16	.04
Cognitive Engagement Scales	**N**	**Pre-test M**	**Pre-test SD**	**Post-Test M**	**Post-test SD**	**p-value**	**n^2**
Learning Focus	168	4.26	0.73	4.34	0.60	.41	.01
Planning	168	3.65	0.95	3.79	0.95	.34	.02
Task Management	168	4.08	0.74	3.99	0.93	.38	.14

Two-way ANOVA's were conducted to determine whether a significant difference occurred between genders for each of the student engagement scales. Table 6 collates those

findings. Of the 168 student participants in the study 90 were female and 78 were male. Self-belief results suggest a statistically significant difference in Box's test of equality of covariance matrices, which tested the covariance of gender. During the course of the intervention, boys improved self-belief scores statistically significantly more than their female counterparts. Tests of within subject effects were non-significant. The pre-test mean for female was 4.519, and for male 4.18. Post-test mean for female was 4.30 and for male 4.44.

Failure avoidance showed Box's Test of Equality of Covariance Matrices and tests of within subject effects as non-significant for gender. The pre-test mean for female was 2.54, and for male 2.75. Post-test mean for female was 2.35 and for male 2.36.

Anxiety showed Box's Test of Equality of Covariance Matrices and within subject effects as non-significant for gender. The pre-test mean for female was 2.98, and for male 3.38. Post-test mean for female was 2.95 and for male 3.28.

Valuing results suggest a statistically significant difference in Box's test of equality of covariance matrices for gender. Boys demonstrated greater gains in the valuing scale during the course of the intervention than their female counterparts. Tests of within subject effects were non-significant. The pre-test mean for female was 4.08, and for male 4.29. The post-test mean for female was 4.27 and for male 4.15.

Uncertain control showed Box's Test of Equality of Covariance Matrices and within subject effects as non-significant for gender. The pre-test mean for female was 2.98, and for male 3.38. Post-test mean for female was 2.95 and for male 3.28.

Persistence showed Box's Test of Equality of Covariance Matrices and within subject effects as non-significant for gender. The pre-test mean for female was 3.18, and for male 4.00. Post-test mean for female was 3.93 and for male 4.00.

Persistence showed Box's Test of Equality of Covariance Matrices and within subject effects as non-significant for gender. The pre-test mean for female was 3.18, and for male 4.00. Post-test mean for female was 3.93 and for male 4.00.

Disengagement showed Box's Test of Equality of Covariance Matrices and within subject effects as non-significant for gender. The pre-test mean for female was 1.92, and for male 1.77. Post-test mean for female was 1.77 and for male 1.66.

Learning focus results suggest a statistically significant difference in Box's test of equality of covariance matrices for gender. Girls demonstrated greater gains in the learning focus scale during the course of the intervention than their male counterparts. Tests of within subject effects were non-significant. The pre-test mean for female was 4.24, and for male 4.30. The post-test mean for female was 4.34 and for male 4.35.

Planning showed Box's Test of Equality of Covariance Matrices and within subject effects as non-significant for gender. The pre-test mean for female was 3.56, and for male 3.77. Post-test mean for female was 3.63 and for male 3.97.

Task Management showed Box's Test of Equality of Covariance Matrices and within subject effects as non-significant for gender. The pre-test mean for female was 3.86, and for male 4.35. Post-test mean for female was 3.85 and for male 4.13.

Table 6. Two-way ANOVA results for gender and student engagement scales

Emotional Engagement	Female N	Male N	Female Pre M	Male Pre M	Female Post M	Male Post M	Box's Test	Within Subject Effects
Self-belief	90	78	4.19	4.18	4.30	4.44	.004	.43
Failure Avoidance	90	78	2.54	2.75	2.35	2.36	.12	.41
Anxiety	90	78	2.98	3.38	2.95	3.28	.61	.73
Valuing	90	78	4.08	4.29	4.27	4.15	.02	.11
Uncertain Control	90	78	2.65	2.67	2.25	2.27	.14	.97
Behavioral Engagement	**Female N**	**Male N**	**Female Pre M**	**Male Pre M**	**Female Post M**	**Male Post M**	**Box's Test**	**Within Subject Effects**
Persistence	90	78	3.81	4.00	3.93	4.20	.51	.84
Disengagement	90	78	1.92	1.77	1.77	1.66	.80	.04
Cognitive Engagement	**Female N**	**Male N**	**Female Pre M**	**Male Pre M**	**Female Post M**	**Male Post M**	**Box's Test**	**Within Subject Effects**
Learning Focus	90	78	4.24	4.30	4.34	4.35	.002	.79
Planning	90	78	3.56	3.77	3.63	3.97	.72	.64
Task Management	90	78	3.86	4.35	3.85	4.13	.72	.38

Taken together the results suggest gender did not significantly influence the outcomes of the intervention. In total, three of the five emotional engagement scales, two of two behavioral

engagement scales, and two of three cognitive engagement scales failed to show covariance between gender and student engagement.

Research Question Two

What is the relationship between students' perceptions of parental engagement and PTAT participation?

Parental involvement was measured by five scales, and a repeated measure ANOVA was completed to determine the impact of PTAT had on student perceptions of enjoyment of parental involvement, parental involvement and monitoring in school, parental involvement in reading, parental involvement in math, and parental involvement in science. Pre and post-test means and standard deviations are located in Table 6 for the five parental involvement scales included in the student survey. Parental enjoyment ANOVA resulted in (Wilks' Lambda = .80, $F(1,168) = 13.97$, $p < .0005$, $n^2 = 0.20$). Parental involvement and monitoring in school showed (Wilks' Lambda = .75, $F(1,168) = 18.79$, $p < .0005$, $n^2 = 0.25$). Parental involvement in reading revealed (Wilks' Lambda = .83, $F(1,168) = 11.22$, $p < .001$, $n^2 = 0.20$). All three of these positive results are statistically significant with a large effect size according to Cohen, Miles, and Shevlin (2001) using partial Eta squared for within subjects design. The results demonstrate an increase in parental enjoyment, parental involvement and monitoring, and parental involvement in reading.

Parental involvement in math resulted in (Wilks' Lambda = .85, $F(1,168) = 4.10$, $p < .048$, $n^2 = 0.07$). Finally, parental involvement in science found (Wilks' Lambda = .93, $F(1,168) = 9.70$, $p < .003$, $n^2 = 0.15$). Both the math and science scales show statistically significant results with a medium and large effect size respectively. Student perceived parental involvement in math and science increased. These findings show sufficient evidence to reject the null hypothesis that there is no change in student participant's perception of parent involvement. The statistical

analysis used repeated measures, therefore, to account for confidence interval adjustment, Bonferroni Correction was used to counteract the problem of multiple comparisons and reduce the likelihood of a type one error.

A positive time difference was noted in 5 of 5 total scales. The change was statistically significant for all parent involvement scales including; parental enjoyment, parental involvement, parental involvement in reading, parental involvement in math, and parental involvement in science.

Table 7. Student perceptions of engagement and parent involvement

Parental Engagement	N	Pre-test M	Pre-test SD	Post-Test M	Post-test SD	p-value	n^2
Parental enjoyment	168	2.39	0.83	3.00	0.92	.0005	.20
Parental involvement	168	2.35	0.53	2.73	0.54	.0005	.25
Parental involvement in reading	168	2.38	0.74	2.84	0.76	.001	.20
Parental involvement in math	168	2.25	0.90	2.61	1.05	.048	.07
Parental involvement in science	168	2.26	0.89	2.75	0.86	.003	.15

Given this result, further analysis was conducted using a two-way ANOVA for gender for each of the parent involvement scales. Table 7 collates the data below. Analysis of the parent enjoyment scale revealed Box's Test of Equality of Covariance Matrices as non-significant for gender. Within-subjects effects were non-significant. Pre-test mean for female was 2.56, and for male 2.18. Post-test mean for female was 2.99 and for male 3.09.

Parental involvement and monitoring in school showed Box's Test of Equality of Covariance Matrices as non-significant for gender. Further, tests of within subject effects are also non - significant. The pre-test mean for females was 2.41, and for males 2.27. Post-test mean for females was 2.72 and for males 2.74.

Parental involvement in reading analysis found Box's Test of Equality of Covariance Matrices as non-significant of gender. Tests of within subject effects was 0.05, producing the most significant gender variance result for the parent involvement scales used in the study. The pre-test mean for females was 2.50, and for males 2.23. The post-test mean for females was 2.70, and for males 2.99.

Parental involvement in math two-way ANOVA showed Box's Test of Equality of Covariance Matrices and tests of within subject effects as non-significant of gender. The pre-test mean for females was 2.12, and for males 2.34. The post-test mean for females was 2.60, and for males 2.63.

Parental involvement in science results showed Box's Test of Equality of Covariance Matrices and tests of within subject effects as non-significant of gender. The pre-test mean for females was 2.41, and for males 2.09. The post-test mean for females was 2.72, and for males 2.80.

Table 8. Two-way ANOVA results for gender and parent involvement scales

Parental Engagement	Female N	Male N	Female Pre M	Male Pre-test M	Female Post M	Male Post M	Box's Test	Within Subjects Effects
Parental enjoyment	90	78	2.56	2.18	2.99	3.09	.48	.17
Parental involvement	90	78	2.41	2.27	2.72	2.74	.29	.34
Parental involvement in reading	90	78	2.50	2.23	2.71	2.99	.60	.05
Parental involvement in math	90	78	2.12	2.34	2.60	2.63	.93	.49
Parental involvement in science	90	78	2.41	2.09	2.72	2.80	.79	.22

Taken together the results support the premise that involvement in PTAT is associated with an increase in student's perceptions of parental engagement. In this study, gender did not significantly influence findings for parent involvement scales, with the exception of parental involvement in reading. This finding suggests that the intervention had a larger relationship to changes in boy's pre and post mean scores than their female counterparts.

Research Questions Three and Four

What is the relationship between teachers' perceptions of parent involvement as a result of PTAT participation and what is the relationship between parents' perceptions of the teacher-parent relationship as a result of PTAT?

Ten teachers and five parents were interviewed to explore the feelings, impressions, patterns, and perceptions of following the implementation of PTAT. During the analysis of the qualitative data generated during these interviews, 83 codes were identified formulating six themes. These include (a) parent engagement; (b) teacher engagement; (c) communication; (d)

parent efficacy; (e) teacher efficacy; and (f) PTAT as a template for schools to involve parents. Interviews were structured in a manner that provided participants the opportunity to share their story related to PTAT experiences. As such, the questions were open ended and invitational.

Table 9. PTAT Themes and Assertions

Themes	Assertions
Parent efficacy Parents felt more knowledgeable and confident in assisting their child with academic goals. Parents were aware of, and could discuss specific academic goals with their child, and therefore were more aware of how their child was progressing. Parents appreciated the increased communication about academics from the teacher. Parents appreciated the specific coaching and demonstration of academic exercises.	PTAT provided support and structure that resulted in increased efficacy for parents with respect to student academic goals
Teacher engagement Initial teacher reluctance to participate in PTAT diminished as they began to work more closely with parents on student academic goals. Teachers noted increased conversations about learning and student progress with parents and students. Teachers felt the PTAT process resulted in students who were better prepared for academic tasks. Teachers felt the PTAT process reduced pressures related to summative assessment.	Teachers noted an increase in communication, and parent involvement in the learning process.
Parent engagement Parents increased the amount of time they spent with their child working toward a learning goal. Parents committed to employing the strategies in the home to support their child's academic goal. Parents participated and found value in the class and individual meetings.	Parents increased involvement in academic endeavors with the support of PTAT.

Communication Communication between teachers and parents about student academic progress and goals increased. Parents and teachers noted an increased comfort in collaborating with respect to student achievement. The frequency and amount of academic achievement data that was shared with parents increased. Teachers and parents were collectively tackling learning targets.	Sharing specific and targeted academic data, along with identifying specific strategies designed to facilitate academic goals resulted in a collective effort to improve learning outcomes.
Teacher efficacy Teachers noted an increased confidence in sharing student learning struggles with parents. Teachers noted that they had not received training or support for effective parent communication and it was a skill they previously had to learn on their own. Some teachers noted a change in how they viewed parent contributions to the learning process. Teachers saw value in engaging parents in a shared approach with respect to student academic goals.	With supportive structures teachers were able to effectively lead parents as active participants in classroom learning communities.
Structure for parent involvement Teachers noted a structure to engage parents was helpful in ensuring communication about learning occurred frequently. Parents appreciated the strategies. Teachers and parents felt the PTAT model added value to student led conferences. Setting shared academic goals increased focus and commitment.	PTAT provided structure and support to effectively engage parents in the student learning process.

Parent Efficacy

The assertion with respect to parent efficacy identified by the researcher was, PTAT provided support and structure that resulted in increased efficacy for parents with respect to student academic goals. The theme related components included: parents felt more knowledgeable and confident in assisting their child with academic goals; parents were aware of, and could discuss specific academic goals with their child, and therefore were more aware of how their child was progressing; parents appreciated the increased communication about academics from the teacher, and; parents appreciated the specific coaching and demonstration of academic exercises.

Parent comfort with assisting their child in progressing toward specific academic outcomes was an important piece of increasing learning in the home. Parent #3 shared appreciation for the teacher spending time with her to understand both the learning strategies and the goal, stating, " Nobody ever explained what the problem was before, we just were told he was reading below grade level. This teacher helped me help my child" (Parent reflection, November, 2016).

Several parents discussed having the knowledge about academic performance was motivating for them to work with their child on the learning in the home strategies, as well as discussing the learning happening at school. Parent #1 stated, "I used to just ask every day how was school, now I can ask about academic vocabulary" (Parent reflection, November 2016). Parents, as a result of the PTAT structure were better positioned to observe whether or not their child was progressing toward identified academic goals. Additionally, knowledge increased confidence in approaching the teacher with questions about learning, and providing assistance and expertise in working toward clearly articulated and shared outcomes.

Communication with regard to learning increased as a result of PTAT, and parents were appreciative of the detailed information. Parent #2 spoke about feeling as though she and the teacher were on a team together to support her child in attaining academic success. "I am so grateful for the time the teacher takes to share what is happening at school. I feel I really know what is going on and how my son is doing. The report cards have information, but talking to the teacher is more helpful" (Parent reflection, December, 2016). Further, parents shared that the coaching and demonstration of academic exercises increased the practicality and relevancy of the information shared. Parent #1 said, "when the teacher showed me how to use the vocabulary words and had everything cut up and organized for us to use, it made it easy to do in the truck. We have a 30 minute commute to and from school, and we just keep it in the back seat. It doesn't take any extra time and we are helping her with literacy" (Parent reflection, November, 2016).

Teacher Engagement

Teachers noted an increase in communication, and parent involvement, in the learning process. Themes included: initial teacher reluctance to participate in PTAT diminished as they began to work more closely with parents on student academic goals; teachers noted increased conversations about learning and student progress with parents and students; teachers felt the PTAT process resulted in students who were better prepared for academic tasks, and; teachers felt the PTAT process reduced pressures related to summative assessment.

Teacher #6 expressed that he had always desired to work with parents, however, prior to the introduction of PTAT he had become discouraged. The program rejuvenated his engagement in working with parents collaboratively,

> I thought a small percentage of parents would use the strategies. Some parents would feel it was the schools job or not understand what we were trying to get them to do. I was able to really break it down. I was surprized most parents participated and really tried to work with the student. When a parent is on board it means everything, especially if they are actively

> practicing. I was able to increase parent buy-in and the process was really transparent (Teacher reflection, December, 2016).

As teachers began to implement the PTAT model they found their fear of increased workload to be unsubstantiated. Teacher #2 noted, "Once the system was established it did not feel like one more thing that we were expected to do. It was just a different way of connecting with parents. I found it to be less stressful because the academic goals were a shared responsibility" (Teacher reflection, 2016).

Several teachers observed an increase in responsiveness from teacher initiated communication, as well as an increase in parent initiated communication about specific academic goals. Teachers discussed a change in the type of conversations they were having parents. Fewer discussions were occurring about the behaviour of a student or their peers, and more were occurring about learning. Teacher # 2 shared, "I used to dread phoning a certain mother. She was always angry about the way other students were acting on the playground or afterschool. PTAT gave us a frame to start with her own child's academic success and we have a much better relationship now" (Teacher reflection, December, 2016).

Preparation for academic challenges includes ensuring students have enough background knowledge to be grounded in their work, enough scaffolding to be supported in attaining goals, and enough academic or intellectual freedom to create. Parent involvement in learning endeavours helps to ensure fluency and precision are such that the cognitive load can be concentrated on more complex learning tasks. When parents assist their child in mastering these skills students are better prepared for academic tasks in school. Teacher #8 shared, "the students who had parents actively participate in PTAT were more confident in applying skills learned in assignments" (Teacher reflection, December, 2016).

In 2015/2016 the school division in which the research was conducted mandated a literacy based assessment be completed for all students in grades one through nine annually, with results reported to the Board of Trustees. Teachers expressed they felt pressured to ensure students were progressing in alignment with grade level expectations. PTAT provided an opportunity to share that responsibility with parents, and collectively work towards common learning goals. Several teachers discussed a reduction in anxiety related to these assessments with parents fully informed about student performance, as well as an increase in support from parents to help make learning progress. Teacher #4 said, "The pressure is off a little because they know where their child is struggling and how to support them. It is really positive when we are working together and I don't have to worry so much about assessment results because we are all on the same page".

Parent Engagement

Parents increased involvement in academic endeavours with the support of PTAT. The themes identified include: parents increased the amount of time they spent with their child working toward a learning goal; parents committed to employing the strategies in the home to support their child's academic goal, and; participating parents and found value in the class and individual meetings.

PTAT provided guidance on spending individual time with a child while working towards a learning goal. Parent #3 stated, "As a single mom of three kids I don't have a lot of time. I was worried we would be too busy for this, but, I really liked spending time individually with my child (sic) even though it was only fifteen minutes" (Parent reflection, December, 2016). Another parent, #2, noted that, "my new job starts at 5 in the evening so I miss having dinner

with my kids. This gives us something to do on the drive home from school so I am still feeling connected to what is happening during his day" (Parent reflection, December, 2016).

Teachers reported that most of their parents were using the learning in the home strategies and that students were talking about the work they were doing at home. Teacher #8 shared,

> When student (sic) came to school a couple of weeks into the intervention he was so excited when he was working on his simple machines project because he knew the scientific words to describe the process. He was so proud when he told me that he had been working on them at home. He said that had never happened before and now his mom was helping him. That was when I knew this (PTAT) was making a difference (Teacher reflection, December, 2016).

Parents found value in the class and individual meetings. The information that was shared was directly relevant to their child's success in school, and provided insight into how to align school and home support. Parent #5 shared,

> The class meeting was new, we have not had that in any other class. It showed how I can help at home in a way that helps them at school. The individual meeting was good too because we could talk about how my child (sic) is doing and the things the teacher is doing at school to help her improve. All I want is to help my child (sic) be successful and this teacher is really good about showing us how to do that. You can tell she really cares, she is really good.

Teachers reported high levels of participation and also noted student performance improved when parents participated fully in employing the strategies for learning in the home. However, data from teachers suggests that approximately 15% of parents did not complete the PTAT components.

Communication

The communication assertion identified was sharing specific and targeted academic data, along with identifying specific strategies designed to facilitate academic goals resulted in a collective effort to improve learning outcomes. The themes identified were: communication

between teachers and parents about student academic progress and goals increased; parents and teachers noted an increased comfort in collaborating with respect to student achievement, the frequency and amount of academic achievement data that was shared with parents increased, and; teachers and parents were collectively tackling learning targets.

Parent #4 discussed how much they appreciated whole class data in conjunction with their own child's performance information. "The teacher shared where my child (sic) is supposed to be at. This helped me know what to work towards, because of the communication" (Parent reflection, December, 2016). Benchmarked data increased understanding of learning targets. This information was given to parents in both chart and graph form. The graphs were particularly helpful for the Low German Mennonite (LGM) families who have limited English skills, served by one of the schools participating in the intervention. Parent #5, who belonged to the LGM community shared, "I like the graph because it showed what my child (sic) knows, I can tell how she is doing even when I cannot understand the letters she send home" (Parent reflection, December, 2016). Additionally, whole class data provided an opportunity to set meaningful and realistic goals. Parents and teachers were able to identify learning targets with benchmarked data as a guide. Parent # 2 said, "I knew my son was struggling to read but I didn't know it was because he didn't understand the words. When I saw the grade four vocabulary I knew I could help him learn them" (Parent reflection, December, 2016).

Over the course of the PTAT intervention teachers and parents became more comfortable communicating with the teacher with respect to learning goals. Previously, much of the communication was in relation to special events, and logistical information. The move to PTAT provided opportunities for collaboration between teachers and parents that were specific to academic goals. Parent # 5 said, "I pick up my child from school every day, and now that we

have had the meeting I can ask questions about their learning goals, and share how it is going at home. Further, teachers talked about the impact of the PTAT model on how they communicated with parents. Specifically, teacher #7 stated, "The kinds of conversations I have with parents have changed. They understand what level their child should be performing at so they can ask for assistance or clarification in a way they couldn't before" (Teacher reflection, December, 2016.

The frequency and depth of student performance data shared with parents increased as a result of PTAT participation. Parent #1 stated, "I have never had this information before, I didn't really ever know how my daughter was doing. Now I talk to her and the teacher about it all the time" (Parent reflection, November 2016). Teacher # 4 talked about how they had always thought they were sharing information with parents through report cards, classroom newsletters, and phone calls already, but observed that the information was previously not always translating into tangible actions.

> When we started PTAT I found myself spending a lot time planning how to share the information so that it was understandable, but not condescending or offensive. I was nervous about sharing strategies in the home because I didn't want to sound like I was talking down to the parents. I realized that I was not sharing as much information with parents as I thought I was before because of that fear. I am a better communicator with parents now (Teacher reflection, December, 2016).

Teacher Efficacy

The assertion for teacher efficacy was, with supportive structures teachers were able to effectively lead parents as active participants in classroom learning communities. The themes identified include: teachers noted an increased confidence in sharing student learning struggles with parents; teachers noted that they had not received training or support for effective parent communication and it was a skill they previously had to learn on their own; some teachers observed a change in how they viewed parent contributions to the learning process, and; teachers saw value in engaging parents in a shared approach with respect to student academic goals.

Teachers discussed feeling that communicating with a portion of their parent population could be challenging, particularly, if the relationship was judgmental, or strained. Several teachers talked about parents responding in a defensive manner when presented with information about their child that suggested areas for improvement. Teacher #1 stated, "A lot of parents feel judged, we are all doing our best here. I learned to suspend judgement, as part of this process, it is a self-correction I have made. Teachers who really make a difference meet people where they are at" (Teacher reflection, December, 2016). Teachers can communicate with parents in a manner that strengthens the relationship and collaboration for student success. Teacher #5 shared, "I used to dread calling the parents of these three boys who were really struggling, I was always delivering bad news and they didn't take it well. It is different now, we want the same things, for them to succeed" (Teacher reflection, December, 2016).

Arguably, schools are amongst the most complex social structures in the world. The many stakeholders, participants, and employees need to interact to achieve goals that shape society. Yet, few of the people in the system have training in communications. Teacher #6, who is a second year teacher shared, "I don't know why we don't learn anything about communications in our undergrad degrees. It would have been so helpful to know how to talk to parents before I started in the classroom. PTAT should be a part of our induction program" (Teacher reflection, December, 2016). When teachers use effective communication techniques they are able to create learning cultures that include parents as an important part of academic achievement.

Parents who are viewed as difficult can be thought of as hindrance to learning goals rather than holding valuable expertise that can be leveraged to maximise student success. When teachers are able to create relationships with parents in which both parties are considered

valuable contributors to the learning process students benefit. Teacher #10 discussed changing how he thought about some of the parents of his students. "I used to think they just didn't care. No matter what I tried they didn't work with their child. I realize now they want to be involved, but were unsure how to help". Providing strategies for learning in the home that were directly tied to a student specific learning goal clarified and targeted parent support.

Teachers reported appreciating parent commitment to shared learning goals, and viewed their work with their child in the home as a valuable part of the learning process. Teacher #3 stated, "The parents really worked hard with their child, and it made a big difference for students struggling with mastery. The students are more confident and willing to share what they know" (Teacher reflection, December, 2016).

Structure for Parent Involvement

The assertion for structure for parent involvement was, PTAT provided a framework and support to effectively engage parents in the student learning process. Themes identified include: teachers noted a structure to engage parents was helpful in ensuring communication about learning was occurring frequently; Parents appreciated the learning in the home strategies; teachers and parents felt the PTAT model added value to student led conferences, and; setting shared academic goals increased focus and commitment.

PTAT provided a structure to facilitate parental involvement in academic goals. Teachers spoke of having a strong desire to include parents more meaningfully in the learning process, however, time to manage competing demands for attention were a barrier. The process ensured PTAT could be embedded into current practice. Teachers were encouraged to find ways to communicate efficiently. Teacher #2 shared, "In the end the time was not the challenge I expected because parents were sharing responsibility for the learning process. I have never felt

so supported in my classroom, and the well-organized approach to involving parents ensures I have time to connect more often in a targeted manner" (Teacher reflection, December, 2016).

Parents shared that they found the strategies for learning in the home helpful, and appreciated the format and explicitness of coaching from the teacher. Parent #3 stated, "Sometimes homework would come home without directions and my son (sic) would not be able to explain it in a way that I could help. The materials for PTAT were organized and clear and the teacher went through everything so I knew what we were doing was right" (Parent reflection, November, 2016). This assertion provides further support for the notion that parents want to be involved but may require support.

Student led conferences provide important opportunities for parents to connect with the school learning community. The addition of the PTAT approach helps provide a framework to translate information learned into a plan for continued progress. Parent #2 reported, "My child (sic) likes when I attend student-led conferences but I have not really received information that helped me understand how to help. I wish all teachers did this" (Parent reflection, December, 2016). Further, teachers felt having designated time to discuss benchmarked data and specific student's performance was a valuable use of time. Teacher #9 shared,

> Sharing student and class data with parents has increased the importance of student-led conferences. It is no longer only sharing student work that has already been completed but now also includes practical steps for moving forward to reach specific learning targets. It is not just passive sharing of information, but action oriented. (Teacher reflection, December, 2016).

Creating shared academic goals as part of the PTAT structure provides clarity and specificity for parents and teachers alike. Parent #1 reported, "The goals are very motivating. I can watch my daughter achieve her goals to be successful in school" (Parent reflection,

November, 2016). Teacher #8 noted, "The academic goals are focussed which is very motivating for students. Everyone is supporting their achievement" (Teacher reflection, December, 2016)

Discussion

Students who do not have the support of parents face significant educational inequities. Attempts to involve parents have typically failed to address this problem of practice, in part, because the barriers to engage in their children's education were not mitigated by those working in the field. The supportive framework is designed to provide structure and guidance for parents and teachers to collaboratively address students' learning goals. Through the implementation and research presented in this study it is confirmed that parental involvement can be increased and enhanced through the implementation of PTAT. Traditionally, parent involvement tended to focus on non-academic school-centered initiatives that were removed from educational opportunities. When PTAT is implemented, and teacher and parent strengths are capitalized on to assist children in attaining a clearly articulated learning goal, parental involvement increases.

The results indicate that the implementation of PTAT, in classrooms with significant variation in student populations, can increase both student and teacher perceptions of parental involvement. Benefits include an increase in opportunity to learn for students who traditionally have faced barriers related to family support in school related learning endeavours. The following section discusses implications for practice, the limitations of the study, recommendations for future research, and conclusions.

Implications for Practice

Student outcomes were improved through the implementation of PTAT that resonated beyond identified academic goals. Throughout the intervention teachers were empowered to collaborate with parents by ensuring they were supported, encouraged, and accountable for their child's academic outcomes. Parents shifted from seeing school as an entity that was removed from their influence to actively participating in collaborative structures designed to improve learning outcomes.

The PTAT model provided a framework to engage parents who genuinely wanted to help their children thrive in school, but were held back by systemic barriers. Both the quantitative and qualitative data provided supportive evidence with respect to questions two, three and four. Parent involvement as a tool to improve practice was a new strategy for the ten participating teachers, all of whom have expressed intent to continue PTAT in the future. Specifying a format to invite parental participation, share data, take actionable measures, and reflect and adjust accordingly, changed parent teacher communication patterns, an important outcome of the intervention. As shown throughout the implementation of PTAT, parents with limited educational attainment, or with negative views of the schooling system responded strongly to thoughtful invitations for involvement when provided with structured support.

Communications training for teachers to specifically cultivate successful parent, teacher, and student learning communities would positively improve teacher efficacy with respect to parent involvement, parent satisfaction with their relationship with their child's teacher, and student outcomes. Going forward, teacher professional development should be delivered, specifically about effectively communicating with parents in order to involve them in their children's learning process.

Limitations

The study, transforming school cultures through parent involvement, was a within-subjects design, therefore, selection bias poses a threat due to differences in student population, such as socioeconomic status. As noted in the literature review parents living in low socioeconomic conditions have a lower likelihood of volunteering, participating in their children's schools (Hoover-Dempsey, Bassler & Brissie, 1987) or providing family resources, reading material, or a study area (Ho, 2003). If participants were selected from a homogenous economic bracket, increased parental involvement could be falsely attributed to the PTAT intervention. To guard against this possibility, participants were selected from multiple sites with variation in average family income.

A second threat is statistical conclusion validity, specifically, the unreliability of treatment implementation. PTAT was placed in ten school sites across a large geographical area. Reducing implementation variability was critical to support the potential scalability of the intervention. The high number of locations poses a potential risk for an increase in error variance. Fidelity measures were put in place to reduce risk including, checklists, intervention logs, and interviews to guard against factors influencing implementation.

Recommendations for Future Research

Student engagement scales showed improvement, however they were not statistically significant. One possible explanation is changes in engagement may be demonstrable over a longer time period then was available given the constraints of this study. It is recommended that a long-term study be conducted over multiple years measuring changes in engagement over time, should PTAT be implemented over the course of multiple grade levels. This would guard against

changes in student engagement levels that are influenced over a longer period of time and allow measurement of engagement at similar time points in the academic year.

It is recommended that further research be conducted at various grade levels to determine whether differences in student ages impacts the effects of PTAT. Engagement changes over time, and the effectiveness of strategies may demonstrate a relationship with age. Data corresponding with student grade and age would be useful for practitioners designing contextualized versions of the PTAT intervention.

Conclusion

The noble work of educating of children is improved when parents and teachers work as a team. PTAT provides an opportunity to involve parents meaningfully, to create mutual accountability, and a pathway for enhanced student achievement. Teachers are well positioned to create shared responsibilities and shared goals for the attainment of academic outcomes with parents.

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APPENDIX A

Student Assent and Parental Informed Consent

Project:	Student Engagement in Upper Elementary School
Principal Investigator:	Ms. Reagan Weeks, Johns Hopkins University Doctoral student

Date

Dear Parents,

Your child is being invited to participate in a research study on student cognitive, behavioral and emotional engagement in school. The purpose of the study is to better understand the underlying causes of engagement and how engagement interacts with achievement in school. It is anticipated that approximately 220 students from three different schools within the district will participate. Involvement in the study will include the completion of a survey by your child during class time. The survey will take approximately 20 minutes.

Benefits / Risks/ Voluntary participation / Right to Withdraw

Potential benefits include increasing researchers and teachers understanding of how engagement can be leveraged to help students achieve in school. There are no anticipated risks to students for participating in the study. Participation is completely voluntary and as guardian you will choose whether you allow your child to participate by signing below. There are no consequences to any decision that you make. You are free to stop participation in the study at any time without any penalty by contacting Reagan Weeks at rweeks2@jhu.edu.

Confidentiality

Results of the survey will be kept confidential. Names of students will be translated into ID codes and all data will be labeled with the ID codes rather than names. The survey will be administered on paper and will not include any identifiable information. The Johns Hopkins University Homewood Institutional Review Board, and school division officials, in order to ensure that the research is being conducted properly, may review data collection. No identifiable information will be included in any published reports or research. All research data will be

kept in a locked office. Electronic data will be de-identified and stored on the principal investigators computer, which is password protected. At no time will names or other identifying information be used.

Compensation

No compensation for participating in this study is provided for parents or students.

Questions / Concerns

Should you or your child have any questions about this research please contact Ms. Reagan Weeks at rweeks2@jhu.edu.

Signatures

Signing consent below means that you understand the information in the consent form and that you agree to allow your child to participate in the study. Your child's signature indicates that they agree to participate in the study.

I have read the above information regarding this research study on student engagement and consent for my child to participate.

_____(Child's Name)

_____(Parent's Printed Name)

_____(Parent's Signature)

_____(Child's Signature)

_____(Signature of person obtaining consent)

APPENDIX B

Student Engagement Survey:

Student Questionnaire

Ms. Weeks

Johns Hopkins Doctoral Student

Date

Student Engagement Survey

Dear Student,

Thank you for participating in this survey about student engagement. Your responses will be used to learn more about how to improve school. This is not a test and there are no right or wrong answers, the survey is designed to show us what you think. You should only have one answer for each question. Your name is not included on the survey and it will not be marked or included as part of your school work.

Please answer the questions that follow as honestly as you can. This survey is to be completed on your own so your ideas are captured. If you have any questions please ask the person who is giving you the survey.

When you have completed the survey please place it in the envelope and seal it and bring it to Ms. Weeks at the front of the room.

Thank you for your participation.

Ms. Reagan Weeks

ID Number _____

PLEASE CIRCLE ONE NUMBER FOR EACH STATEMENT	Disagree Strongly	Disagree	Neither Agree or Disagree	Agree	Agree Strongly
1. If I do not understand my homework I keep trying until I do.	1	2	3	4	5
2. I feel very happy with myself when I really understand what I'm taught at school.	1	2	3	4	5
3. I usually do my homework in places where I can concentrate.	1	2	3	4	5
4. I'm able to use some of the things I learn at school in other parts of my life.	1	2	3	4	5
5. Sometimes I don't try hard at school so I can have a reason if I don't do well.	1	2	3	4	5
6. When I don't do well at school I don't know how to stop that happening next time.	1	2	3	4	5
7. I feel very happy with myself when I do well at school by working hard.	1	2	3	4	5
8. Each week I'm trying less and less at school	1	2	3	4	5
9. If my homework is difficult, I keep working at it trying to figure it out.	1	2	3	4	5
10. When I have a project to do, I worry about it a lot.	1	2	3	4	5
11. The main reason I try at school is because I don't want people to think that I'm dumb.	1	2	3	4	5
12. When I get a good mark I often don't know how I'm going to get that mark again.	1	2	3	4	5
13. If I try hard, I believe I can do my schoolwork well.	1	2	3	4	5
14. Learning at school is important.	1	2	3	4	5
15. I don't really care about school anymore.	1	2	3	4	5
16. When I get a bad mark I don't know how to stop that happening next time.	1	2	3	4	5
17. When I do homework, I get organized so I can do it well.	1	2	3	4	5

18. I don't know how to get good marks at school.	1	2	3	4	5
19. I worry about getting bad marks in tests and projects.	1	2	3	4	5
20. The main reason I try at school is because I don't want people to think bad things about me.	1	2	3	4	5
21. I usually have a plan for how to do my homework when I start.	1	2	3	4	5
22. I'm not involved in things like class activities and class discussion at school.	1	2	3	4	5
23. If I don't give up, I believe I can do schoolwork that is hard.	1	2	3	4	5
24. I sometimes don't work very hard at school so I can have a reason if I don't do well.	1	2	3	4	5
25. I feel very happy with myself when what I learn at school shows me how something works.	1	2	3	4	5
26. I feel very happy with myself when I learn new things at school.	1	2	3	4	5
27. Before I start a project, I plan out how I am going to do it.	1	2	3	4	5
28. When I'm taught something that doesn't make sense, I spend time to try to understand it.	1	2	3	4	5
29. I've given up being interested in school.	1	2	3	4	5
30. I have a plan for how to do my homework or projects when I start them.	1	2	3	4	5
31. The main reason I try at school is because I don't want to disappoint my parents.	1	2	3	4	5
32. When I do homework, I try to find a place where I can do it well.	1	2	3	4	5
33. If I have enough time, I believe I can do well in my schoolwork.	1	2	3	4	5
34. What I learn at school will be useful one day.	1	2	3	4	5
35. I sometimes waste time the night before a test so I can have a reason if I don't do well.	1	2	3	4	5

36. I'll keep working at difficult schoolwork until I've worked it out.	1	2	3	4	5
37. When I do tests I don't feel very good.	1	2	3	4	5
38. The main reason I try at school is because I don't want my teacher to think bad things about me.	1	2	3	4	5
39. I usually stick to a homework plan.	1	2	3	4	5
40. If I try hard enough, I believe I can do all my schoolwork.	1	2	3	4	5
41. It's important to understand what I'm taught at school.	1	2	3	4	5
42. I sometimes leave homework until the last moment so I can have a reason if I don't do so well.	1	2	3	4	5
43. I worry about school and schoolwork.	1	2	3	4	5
44. When I do homework, I usually do it where I can concentrate best.	1	2	3	4	5

How often is your parent or guardian involved with you on your schoolwork? Circle 1 for "Everyday or Most Days," 2 for "Once a Week," 3 for "Once in a While," and 4 for "Never."

"How often does a parent…"	**Everyday/ Most Days**	**Once a Week**	**Rarely**	**Never**
45. watch or talk about television with you?	1	2	3	4
46. read with you?	1	2	3	4
47. volunteer in the classroom or at your school?	1	2	3	4
48. work with you on science projects or homework?	1	2	3	4
49. review and discuss the schoolwork you bring home.	1	2	3	4
50. help you with math?	1	2	3	4
51. visit your school?	1	2	3	4

52. go over spelling or vocabulary with you?	1	2	3	4
53. ask you about what you are learning in science?	1	2	3	4
54. ask you about what you are learning in math?	1	2	3	4
55. help you with reading or language arts homework?	1	2	3	4
56. help you understand what you are learning in science?	1	2	3	4
57. help you prepare for math tests?	1	2	3	4
58. ask you to read something you wrote?	1	2	3	4
59. go to a school event or meeting?	1	2	3	4
60. make sure your math homework is finished?	1	2	3	4

How much do you agree or disagree with the following statements. Circle SA if you "Strongly Agree," A if you "Agree," D if you "Disagree," and SD if you "Strongly Disagree" with the statement

	Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
61. I enjoy having my parent help me with schoolwork.	SA	A	D	SD
62. I like to talk with my parent about school.	SA	A	D	SD
63. I like having homework that asks me to talk with someone at home.	SA	A	D	SD

Appendix C

Teacher Interview Questions

1. How might you describe what a positive relationship with the parents of your students would look and what a negative relationship with the parents of your students might look like?

2. What might be some of the differences between the PTAT method of involving parents and other approaches?

3. What are some of your impressions about the academic data sharing and strategies in the home?

4. Did the communications training support you?

5. What do you think about the relationship between PTAT and student achievement?

6. What else stood out to you as you reflect on your work with PTAT in your classroom?

Parent Interview Questions

1. Can you talk in general about your child and your family's feelings about school?

2. How do you see school in relationship to the dreams you have for your child?

3. How might you describe a positive parent teacher relationship and a negative parent teacher relationship?

4. What were your impressions of the PTAT and compare to past school interactions you have had?

5. What do you think about the relationship between PTAT and the academic achievement of your child?

6. What information was shared during the class and individual PTAT meetings?

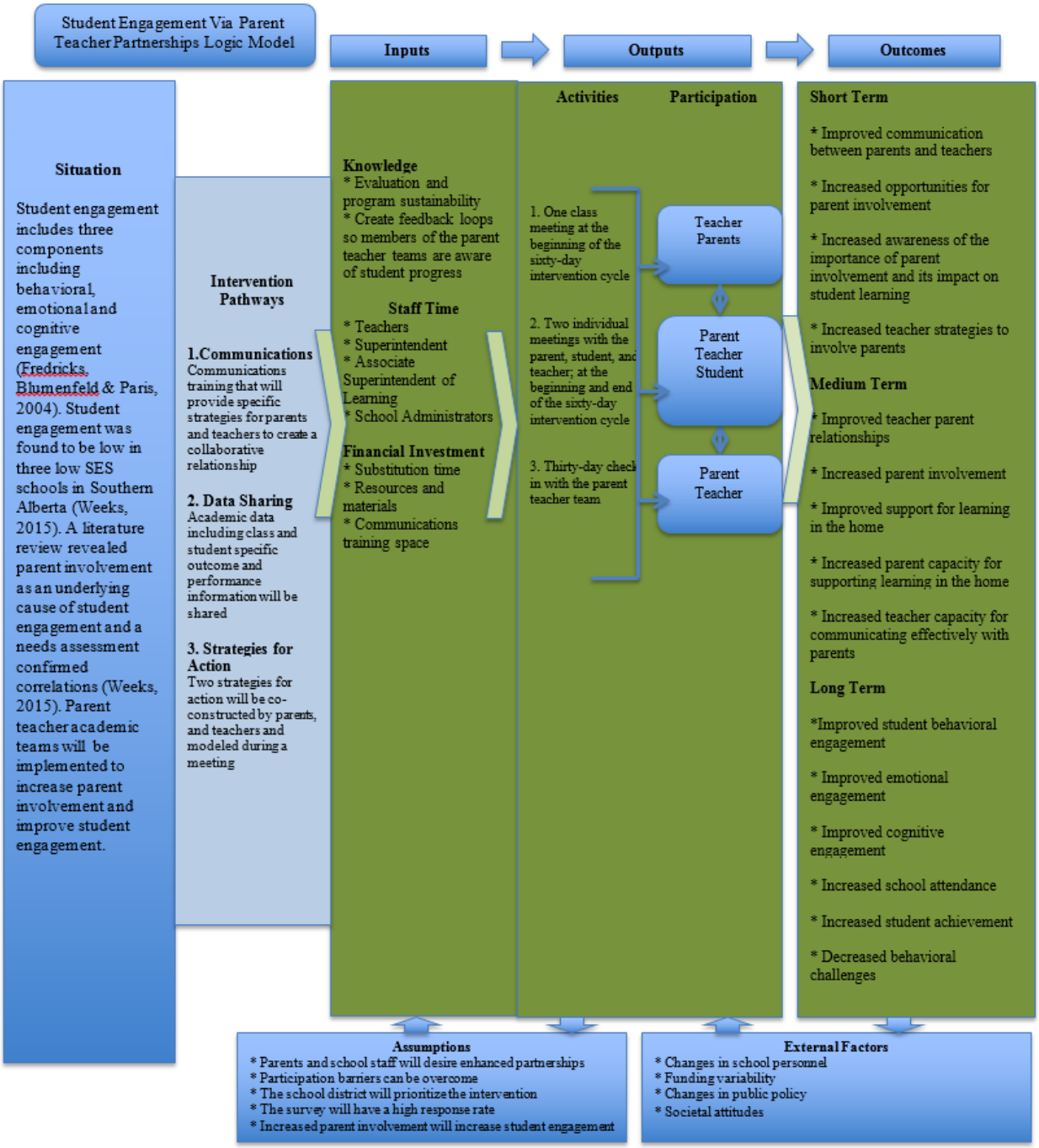
7. What were your impressions of the communication that occurred between you and the teacher since PTAT began?

Appendix D

Theory of Change

Appendix E

Logic Model



Biography

Reagan Elizabeth Weeks was born in Sault Ste. Marie, Ontario, Canada.

Reagan completed her undergraduate work at the University of Alberta, Edmonton where she studied education. Following her undergraduate studies, she began teaching in Medicine Hat, Alberta.

In 2005, Reagan graduated from Royal Roads University with a Masters of Business Administration, majoring in Executive Management.

In 2009, Reagan began her school administration career starting as a vice-principal and moving into the role of principal in 2011. She began her doctoral work in 2014, and became an assistant superintendent the same year.